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The United States Pharmacopeia Revision Program*

By

LLOYD C. MILLER, PH.D.

Director of Revision of the U. S. Pharmacopeia, New York City

WE AMERICANS, as a rule, like to think of ourselves as concerned much more with the future than with the past. Hence, except among those of the fairer sex who find antique auctions irresistible, we are little impressed by references to early beginnings. Despite this, we of the U.S.P. organization are proud to point to our record of service which dates back without interruption to 1820. This pride is enhanced by the fact that our authority stems from an independent, non-profit organization which is not supported financially by grants, appropriations or taxes, and also because the democratic process by which the Pharmacopeia is revised is almost unique. The organization which makes this process succeed so well is the subject of this paper.

THE U.S.P. ORGANIZATION

The organization behind the U. S. Pharmacopeia is known as the United States Pharmacopeial Convention. The word "convention" has a double meaning which requires some explanation. Most of us think of a convention as being simply an occasion bringing people together. This is true of the U.S.P. Convention which, however, is also a corporation that meets once every ten years. Invitations to send delegates are extended to colleges of medicine, colleges of pharmacy, several branches of the federal government, and numerous accredited professional associations and societies in the fields of medicine and pharmacy; for example, the American Pharmaceutical Association, the American Chemical Society and the American Medical Association are invited to be represented. Each institution is entitled to one delegate, making a possible total of about 350 delegates in all.

Each delegate must be connected with the institution that he represents in some official way; for example, as an officer or active member of an association, a member of the faculty of a college or an employee of the division of the federal government represented.

The delegates are appointed to serve not only for this decennial meeting, which usually lasts only two days, but for the entire 10-year period until the next convention.

The Convention has always met in Washington in the years ending in zero and rarely are the delegates called upon during the intervening period. These delegates, therefore, have a brief moment of glory just as an exotic plant which blossoms forth once in 10 years to grace the sunlight for a day and then lies dormant for another decade.

The Convention, however, confers its authority upon an elected Board of Trustees

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and the officers of the Convention who carry on very actively during the ten years between meetings. The Board of Trustees consists of six elected members, two of whom represent medicine and two the field of pharmacy, with two elected at large. The four officers of the Convention, president, vice-president, secretary and treasurer, all sit with the Board of Trustees but only the president has voting power.

At its decennial meetings the Convention receives reports on the decade just ended, selects new officers for the ensuing decade, and elects a Committee of Revision, consisting of 60 experts, 20 from medicine and 40 from pharmacy and the allied sciences. This 1:2 ratio between medicine and pharmacy, which is fixed by the U.S.P. By-Laws for the Board of Trustees and the Committee of Revision, has its origin in the changing character of the respective roles played by medicine and pharmacy in the first 100 years of U.S.P. existence.

The Committee of Revision is elected by ballot from 120 nominations, two for each position on the Committee. These nominees are selected to provide every conceivable skill needed in the revision program. Thus, we have specialists in anesthesiology, surgery, cardiology, etc., on the medical side, and pharmacists, bacteriologists, analytical chemists, and other specialists in various fields of the actual practice of pharmacy.

The Committee of Revision is organized into 10 subcommittees, each with definite responsibility for a given phase of the revision program.

In such a group of 60 it is impossible to have experts in every branch of pharmacy. Further, sometimes policy matters of great importance have to be decided and no one person should be obliged to assume the responsibility for making decisions which may affect, for example, a whole industry. Thus, we appoint advisory boards to whom we turn for advice on policy matters, as for example, the Insulin Advisory Board, the Vitamin Advisory Board, and another which advises on the anti-anemia preparations. These boards consist of individuals who are not only highly qualified as technical experts but also recognized for their statesmanship. The members are expected to act not in the interest of the firm or institution which employs them but in the broader interests of pharmacy and medicine. These advisory boards serve only in an advisory capacity and their recommendations must be ratified by the Committee of Revision. Obviously, in picking the advisory boards efforts must be made to obtain representation of several points of view in order that no area of pharmacy or medicine is neglected in establishing pharmacopeial policy.

Occasionally there arises the need for highly technical advice on matters of restricted interest. In these cases an *ad hoc* panel is appointed from recognized experts in the field who carry out and direct the needed study and make recommendations to the Committee of Revision.

The U.S.P. Board of Trustees is mainly concerned with maintaining the legal and financial standing of the Pharmacopeia. The Board has broad jurisdiction over U.S.P. policy, our relationship with other organizations and matters having a bearing on the prestige of the Pharmacopeia.

Legal Recognition

The unique arrangement whereby three private organizations work independently to draw up and publish the prevailing standards for drugs moving in interstate commerce in the United States frequently escapes full appreciation. The three resulting compendia, the United States Pharmacopeia, the National Formulary and the United States Homeopathic Pharmacopeia, are recognized by the federal Food, Drug, and Cosmetic Act of 1938 as providing the standards of identity, strength, quality and purity for drugs moving in interstate commerce. In effect, Congress has delegated an important part of its legislative function in this way. This delegation of authority has caused some concern on constitutional grounds and was an issue in one court case that went before the Wiscon-

sin Supreme Court in 1953. The Court's decision confirmed the wisdom of depending upon the Pharmacopeia, as far as the Wisconsin Pharmacy Act is concerned, in exactly the same way the federal Act does.*

The Food and Drug Administration, which is responsible for the enforcement of the Food, Drug, and Cosmetic Act, as well as the comparable state agencies, is greatly concerned with the adequacy of these standards but serves the U.S.P. only in a technical advisory capacity. This policy of not accepting a formal role in the U.S.P. revision program reflects the clear separation of legislative and executive functions of our form of government. The Administration does not wish to be in the position of making the law that it is obliged to enforce. Fortunately, technical help from the Food and Drug Administration staff is available so fully that the operation of this policy imposes no handicap in our work.

The U.S.P. Financial Structure

My introduction refers to the financial structure of the Pharmacopeia. It is not well known that almost our entire support of the U.S.P. comes from the sale of the Pharmacopeia over the five years each edition is distributed. Our budget is set up on a quinquennial basis; that is, an attempt is made to have anticipated income balance expected expense over the two halves of each decade. The statement that all our income is from the sale of the book needs only two qualifications. First, there was a one-time campaign in 1949 to solicit funds for the purchase of a permanent headquarters in New York. The money graciously contributed for that purpose fell considerably short of the need but fortunately reserve funds could be drawn upon for the remainder. A second source of income, which simply contributes its share of the current overhead expense of the headquarters building, comes from the sale of the U.S.P. Reference Standards. These are generally pure substances or at least standard specimens of drugs, a quantity of which is purchased, standardized, and packaged for distribution as an aid in the standardization of finished pharmaceuticals. This part of the U.S.P. program operates on a revolving fund basis and is looked upon as an indispensable aid to the production of drugs. All things considered, it returns no profit to the U.S.P. treasury.

U.S.P. Scope

Physicians generally, and particularly those in the armed services (inasmuch as the U.S.P. is drawn upon heavily in the specifications for military medical supplies), have questions on the process of selecting drugs recognized in each U.S.P. This is spoken of as the "scope" of the Pharmacopeia.

It is a fixed and unvarying feature of U.S.P. policy that all decisions on the choice of the drugs is a medical matter to be made by physicians. Thus, the 20 physicians on the U.S.P. Committee of Revision are entrusted with this responsibility, being assisted by expert pharmacists to the extent only of picking the dosage forms of the selected drugs to be given official recognition. Together they constitute the Subcommittee on Scope which is guided by the principle that its selections shall represent the best practice and teaching of medicine and pharmacy.

The process of selecting the U.S.P. drugs is as broadly based and as democratic as we know how to make it. Each physician on the Subcommittee on Scope heads a panel of other physicians drawn from the ranks of his specialty but outside the U.S.P. organization. Each Panel reviews the drugs considered to represent the best practice of medicine within its respective specialty and

* Excerpt from the decision: ". . . The legislature cannot delegate its power to make a law; but it can make a law to delegate a power to determine some fact or state of things upon which the law makes, or intends to make, its own action depend. To deny this would be to stop the wheels of government. There are many things upon which wise and useful legislation must depend, which cannot be known to the lawmaking power, and must, therefore, be a subject of inquiry and determination outside of the halls of legislation."

submits lists of drugs recommended for admission. These lists are passed upon by the entire Subcommittee and the result appears in the published book.

The Pharmacopeia reflects the great progress made in medicine in the past quarter century. A recent count showed that in the 30 years from 1905 to 1935, the drugs newly added to the U.S.P. averaged 6 per year. In the next 20 years, from 1935 to 1955, the average was 37 per year. This six-fold increase was accompanied by a high mortality or turn-over in the drugs recognized in each successive edition.

While the U.S.P. comes out at five-year intervals, admissions of new drugs and changes in standards can be made by interim revision, published in the form of Supplements. Thus, the U.S.P. may fairly be said to be in a state of continuous revision which enables us to keep abreast with medical progress remarkably well, considering the limits imposed by the size of a small staff and the voluntary basis of the program.

Relationships to Other Organizations

Dependent as the U.S.P. program is upon voluntary help, technical assistance is welcomed from almost any source if the underlying motives seem honorable. Thus we are in continual debt to many individuals and organizations.

The advances in medicine are such that the U.S.P. deals mainly with new drugs each of which is produced and distributed exclusively by a single firm. It is natural, therefore, to look to this firm for the initial proposals on U.S.P. standards. Almost without exception, our requests for information of this sort bring forth a generous response in the form of a full statement of the firm's own "house standards" and the tests and assays in use to demonstrate compliance with those standards. These statements are reviewed critically and generally put to actual laboratory trial by members of our Committee of Revision before drafting the final monographs. The latter then appear in galley proof which is distributed rather widely throughout the industry with the aid of the trade associations, particularly the American Drug Manufacturers Association and American Pharmaceutical Manufacturers' Association, which also cooperate in the distribution of notices of U.S.P. revisions, meetings, etc., along with regular mailings to their member firms.

The U.S.P. Committee of Revision is greatly indebted to the A.M.A. Council on Drugs and its associated Chemical Laboratory which for years have prepared monographs setting forth tests and standards for new drugs for publication, until recently, in New and Non-official Remedies. Under the new program which has been in effect now for nearly two years, the help we get is even more significant because it appears earlier in the life of a new drug. In short, the abandonment of the "A.M.A. acceptance program" has been a long step forward in rendering to the American physician the kind of help he should expect from the A.M.A. in his efforts to keep his head above water in the flood of new drugs coming toward him.

Another very fruitful source of help and active cooperation is the federal Food and Drug Act Administration. As mentioned above, the staff members of the F.D.A. are not eligible for places on the U.S.P. Committee of Revision. Nevertheless, there is almost no limit on the advisory help made available to us. Because this advice is unbiased and based on vast experience, its value is almost incalculable. Many members of the F.D.A. could not help more if they were actual members of the Committee of Revision and indeed, many of them do serve on our *ad hoc* advisory panels which deal with technical matters rather than questions of policy.

Fortunately, two sister organizations of the F.D.A. in the Department of Health, Education and Welfare are not strictly regulatory agencies and hence their staff members can serve on the U.S.P. Revision Committee. These are the National Institutes of Health, particularly the Division of Biologics Standards, and the U.S. Public Health Service. The vast hospital facilities of the latter repre-

sent a source of information on the practices of hospital pharmacy from which we have benefited greatly. Surveys through the facilities of the Public Health Service Hospitals have yielded valuable information on problems of U.S.P. scope.

Another important source of information is the American Pharmaceutical Association in the form of work done for the National Formulary. Not infrequently, U.S.P. admissions represent drugs which have been official for the previous five years in the National Formulary. In such cases, the U.S.P. standards are likely to be substantially the same as those of the earlier N.F. monograph.

SUMMARY

The U.S.P., which is now nearing the midpoint of its second century of service, continues to provide the highest attainable standards for drugs of accepted value through a program of regular and continuous revision made possible by unstinting voluntary help from all segments of medicine and pharmacy.

"It's good to have money and the things money can buy, but it's good, too, to check up once in a while and make sure you haven't lost the things that money can't buy."

GEORGE HANSON TOWNE

Federal Legislation as It Appertains to Pharmacy*

By

GEORGE H. FRATES

Washington Representative, National Association of Retail Druggists, Washington, D.C.

NARD's President Ned Henderson, of Seattle, Wash., and Exec. Secy. Dr. John W. Dargavel have commissioned me to extend their greetings to the 64th Annual Convention of your Association.

It is a gracious custom throughout the United States for a guest who is invited to address such a distinguished audience as the Association of Military Surgeons to acknowledge at the very outset his appreciation for the honor that has been extended.

We think that a recent statement by Rep. Hugh Scott (R-Pa.), a staunch friend of retail pharmacists, about wraps up in one package the thinking of all patriotic Americans. Rep. Scott said: "That which we inherit from our forefathers we must earn again in order to deserve."

The National Association of Retail Druggists, whom I have the privilege of representing, is composed of 36 thousand independent retail pharmacists practicing their profession in every State of the Union and the District of Columbia.

The profession of pharmacy is, and has been, an integral part of the health team from time immemorial. The greatest apothecary, the master of them all, told his followers, "The apothecary shall take from the animal, the vegetable and the mineral kingdom and he shall make a concoction and he who is sick will have no disgust with it." The ravages of time will not destroy the professional heart of pharmacy.

Colonel Bernard Aabel, a graduate of the University of Minnesota College of Pharmacy, and Chief of the Medical Service Corps, is a sincere, true friend of pharmacy, who is constantly endeavoring to win the ear of Surgeon General Hayes in order to sell pharmacy to the Service. He might tell you that at times it becomes necessary to retreat—to win. At the National Association of Retail Druggists' recent Minneapolis convention, Colonel Aabel extended greetings from Surgeon General Hayes. It was apparent from the reaction of the delegates from every nook and corner of these United States and Hawaii that the profession of pharmacy, given time, under sympathetic and intelligent leadership, would prove worthy of its keep in the military medical services. Most assuredly, Gentlemen, the enlisted man is entitled to as full protection of his health in the Armed Forces as he received in civilian life.

Some very important laws have been enacted by the Congress which in recent years have had a profound influence on the practice of medicine and pharmacy.

Rep. Carl Durham and Senator Hubert Humphrey are both pharmacists serving in the Congress of the United States. The N.A.R.D. spearheaded what is now known as the Durham-Humphrey Act (P.L. 215) which amended the Food, Drug, & Cosmetic Law and divided drugs into two classifications—to wit: those which carry the prescription legend, namely: Caution: "Federal law prohibits dispensing without prescription," and drugs with adequate directions for lay use which may be sold over the counter.

Recently, drugs have provided the practicing pharmacist with the opportunity to perform a professional relations job with the physician because when the doctor elects, he may telephone the prescription to the pharmacist—the oral prescription is then immediately reduced to writing by the pharmacist—in which case it becomes a bona fide prescription. When refills are called for, the pharmacist telephones the physician, asking

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for his okey. Please consider for a moment how the application of this law operates in expediting services to the sick. Quick, accurate medication becomes available to the sick. The physician-pharmacist professional relations are thus enhanced.

Another law, commonly referred to as the "Codeine Compound Bill," (P.L. 729) marks a milestone and is now another accomplishment instigated by the N.A.R.D. Hitherto, every prescription calling for commonly ued APC capsules with codeine required a written prescription from the physician before the pharmacist could dispense it. Now, the physician may pick up the telephone and dictate an oral prescription, which then follows the general procedure of the Durham-Humphrey Act.

It becomes necessary, however, for each sovereign State to enact legislation in conformity with the Federal act. To date, some thirty states and the District of Columbia are now privileged to operate under Public Law 729. The list of other permissible compounds, which are not in themselves habit forming, are permitted to be prescribed orally (straight narcotics excepted).

We believe the two statutes aforementioned are directly in keeping with the rapid advances in the realm of medicine, pharmacy has not lagged behind in its professional services to the ill.

We have spoken about the Durham-Humphrey Act and the Codeine Compound Law. They represent Federal legislation appertaining to the direct practice of pharmacy. Now we would like to mention two bills which affect the economic status of retail pharmacists. One is known as the Robinson-Patman Act. The other is known as the Fair Trade Act.

The Robinson-Patman Anti-Price Discrimination Act was enacted in 1936. This date marks a new era when, for the first time, a really serious effort was made to protect the right of independent business to compete on a basis of fairness and equity with all competitors regardless of size. However, the R-P Act is now in serious danger of being emasculated. Because of a U.S. Supreme Court decision in the case of the Standard Oil Company of Indiana vs. the Federal Trade Commission, "GOOD FAITH" is a complete defense for price discrimination. Two bills are now pending in Congress—passage of either of which would plug up this loophole in the Act.

The Fair Trade laws are rules of fair competition and fair play over the counter Enacted by 45 state legislatures, these law have been supported by Congress and upheld by the United States Supreme Court and sixteen high state courts. But today, in eleven states, courts have knocked out fair trade and new legislation is needed to give small business an opportunity to compete on fair terms with big business.

It must be considered that the American system of Government, superimposed on a structure originally designed for an agricultural economy with only 4 million people, has expanded into a gigantic superstructure with one million officials, over 7 million government employees serving one hundred thousand governments, which will spend well over $120 billion this year, all serving over 170 million people—the majority of whom live in urban areas.

Again we reiterate—economic researchers tell us that just ahead is the greatest population explosion in the history of the Nation. By 1960, less than three years from today, the war babies, the cradle roll of the 1940's will be approaching maturity. They will be invading the job market at the rate of more than a million a year. Their wants will be almost incapable of being satisfied.

Americans are noted as "joiners." They seem to be everlastingly going to, or returning from conventions, group meetings, or heading for our Nation's Capital to do business with the Federal Government. In the National Press Club is a drawing depicting the first cartoon ever published in a newspaper. It has a moral. The sketch portrays a snake severed into 8 pieces. The head of the severed snake represents, New England. The other 7 segments represent the States of

North Carolina, South Carolina, Vermont, Maine, New Jersey, New York and Pennsylvania. Benjamin Franklin published the cartoon in his newspaper, "THE PENNSYLVANIA GAZETTE," in May 1754. The popularity of this cartoon became so intensive that it was revived twice during critical American history—once when the British Stamp Act was proposed, and again at the outbreak of the Revolution. The idea of the cartoon, captioned "Join or Die," was given birth in the newspapers of the United States. Perhaps the platitude engraved in enduring granite at the entrance to the Archives Building here in Washington would serve as a formula for the philosophy of Government, namely, "The past is prologue—study the past."

We want to acknowledge the splendid work in the interest of pharmacy by Lt. Col. William L. Austin, Chief Pharmacy Consultant, Office of the Surgeon General, whom we understand is now overseas; by George F. Archambault, Chief, Pharmacy Branch, Division of Hospitals, Bureau of Medical Services, USPHS; and by George Griffenhagen, Curator, Bureau of Medicine, Smithsonian Institution.

In conclusion, we should remember that the battle must go on—we cannot take freedom for granted. People must assimilate the fundamental knowledge that as individuals they must live, practice, and preach the power of democracy, convinced that despite its common shortcomings, our democratic government is still the most perfect type of government designed by finite man.

Our thanks for your indulgence.

REMEMBER THE MAN

Secretary of the Army Wilber M. Brucker, speaking at a meeting of the Association of U. S. Army Ground Mobility Symposium at Fort Benning, Georgia, warned that it is possible to get so carried away with abstract potentialities of weapons, equipment and organization that proper attention may not be paid to the basic element of military strength—*the soldier himself*.

Mr. Brucker said: "Of what value is the finest weapon unless the man in whose hands we place it is skilled and conscientious in its employment?" And "He must be a well-trained military specialist, and in most cases, an experienced technician. . . . In order to cope with the extreme rigors of modern atomic warfare, he must be a man who can think clearly and fast, display initiative and resourcefulness, and adjust himself quickly to new situations. He must have courage and moral stamina of high order, and the ability to bear heavy responsibility."

The Handling of Narcotics in Federal, State, County, and City Hospitals*

By

GEORGE F. ARCHAMBAULT, Ph.C., LL.B., D.Sc.† AND ARTHUR W. DODDS, Ph.G., Ph.C.‡

IN MAY, 1957, *Hospital Management* published as a special feature, the article "Your Responsibility for Narcotics," a paper discussing in detail the Harrison Narcotic Law and Regulations in reference to a narcotic control system adaptable to both the large and small hospital.

Since publication of the article, several requests have been received from those employed in Federal, State, County, City and similar governmental hospital posts—for detailed information on narcotic registration and regulations relative to the hospitals in this grouping.

On study of the literature, it was noted that while this information is spelled out in detail in Regulation No. 5 of the Harrison Narcotic Act and Treasury Decision No. 48 (the latter appearing in the November 30, 1954 issue of the Federal Register), relatively little has appeared in the journals of hospital administrators, physicians, dentists, pharmacists, nurses and supply officers to focus attention on this subject.

This presentation is an attempt to make available in the literature of these specialists, the major points of the Narcotic Act that need be known by administrators, procurers, purchasers, dispensers and those administering narcotics in government (Federal and State) hospitals.

In brief, Chapter VI, Regulation No. 5 and Treasury Decision No. 48 deal with the rights, obligations and duties of "exempt officials." Exempt officials are defined as *"officials of the United States, Territorial, District of Columbia, or insular possessions and State or Municipal governments,* who in the exercise of their official duties engage in any of the business described in the Harrison Narcotic Act. These individuals are *not* required to register nor pay special tax, but their right to this exemption must be evidenced in such manner as the Secretary may by regulations prescribe.

The "exempt official" status utilized for employees of Federal and State institutions is a means whereby the Federal Government obtains security control over narcotics in those areas where registration and control by taxation is prohibited. A Federal agency does not have the right and power to tax another Federal agency or department and constitutional law (State Rights) forbids the levying of a Federal Tax on a State or a subdivision of a State; in this instance, the levying of a tax on a Federal, State, County, City or other government operated hospital.

One should consider this presentation as a supplement to the original article on this subject that appeared in the May 1957 issue of *Hospital Management* (see reference "supplement") and a review of that paper should be made at the conclusion of a reading of this supplement in order that the Federal Narcotic Regulations might be viewed in their entirety and not as the segment of the purchasing, procurement, administering and dispensing activities of "exempt officials." It is also suggested that each hospital in this category have available to its officials copies

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† Pharmacist Director, Chief, Pharmacy Branch, Division of Hospitals, U. S. Public Health Service, Department of Health, Education, and Welfare, Washington 25, D.C.

‡ Pharmacist Director, Chief, Pharmaceutical Service, U. S. Public Health Service Hospital, Staten Island, New York; Past-Chairman, Committee on Narcotics, Hypnotics, Ethyl Alcohol, Spiritous Liquors and other Security and Control Type Medications, American Society of Hospital Pharmacists.

of Regulation No. 5 of the Harrison Narcotic Act and Treasury Decision No. 48.

"Exempt officials" under the Act consist of two groups: (1) officials of the Army, Navy, Air Force, Public Health Service or National Guard and (2) *Civil officers* of the United States or District of Columbia or *any State,* Territory or insular possession of the United States or *any County, Municipality or other political subdivision.* This is an important distinction that must be borne in mind in connection with regulations concerning "exempt officials" inasmuch as the regulations operate somewhat differently for the two categories.

Another distinction that must be borne in mind is one within the grouping of Commissioned Officers or Civil Officers. The distinction rests upon the type of duty involved by the official, i.e. purchasing, procurement from official stocks, administering or dispensing. Obviously, one individual may be involved in one or more of these activities.

Registration Procedure

(A) Officials of the Army, Navy, Air Force, Public Health Service or National Guard who are authorized to procure or purchase narcotic drugs or preparations for official use must file Form 1964 (Certification of Exempt Official), (see Figs. 1 and 1a) with the District Director of Internal Revenue for the area in which they are located. These certificates must be renewed each July 1.

It should be noted that the filing of Form 1964 is required, in the category of the Commissioned or Enlisted officials, *only* from procurers and/or purchasers of narcotic drugs or preparations from a registered manufacturer or dealer. The filing of Form 1964 is *not* required for officials in this grouping who *only* prescribe, dispense or administer narcotic drugs in the course of their official duties.

For example, a supply officer inasmuch as he procures and/or purchases must file Form 1964. The Medical Officer in Charge of a uniformed service hospital must file Form 1964 *only* if he procures or purchases narcotic drugs or preparations from a registered manufacturer or dealer. However, in instances where the military officer, such as a commissioned medical officer in charge of an Army hospital is authorized *only* to "procure" narcotic drugs from an Army Medical Depot upon Army requisition for official use in the hospital, such an officer is not required to obtain the certification as he will never have occasion to order drugs from a registered manufacturer or wholesale dealer. The narcotic drugs in this case will have been obtained by the Depot presumably by a duly certified Army Supply Officer from a registered manufacturer or wholesale dealer. The supply officer must of course obtain the required certificate on Form 1964 and use the exempt official order forms for this purpose. It will be noted in (b) below that *civil* officers of the United States or of a State, Territory, County, Municipality or other political sub-division thereof, are required to file for certification on Form 1964. If the civil officer is merely prescribing or dispensing narcotic drugs obtained from the official stocks, he will not be issued a book of official narcotic order forms because he will have no occasion to order drugs direct from a registered manufacturer or wholesale dealer. If however the civil officer will be required to order narcotic drugs from a registered manufacturer or wholesale dealer, he will be issued the book of official narcotic order forms. Physicians and dentists who prescribe and who administer only and pharmacists who dispense only need not file Form 1964. They must file if in addition to these duties, they are engaged in narcotic procurement or purchasing responsibilities, as indicated above.

One exception to this non-filing of Form 1964 should be noted. Civil Service doctors, dentists and pharmacists in the uniformed services (Army, Navy, Air Force and U. S. Public Health Service) fall into the civil officers grouping and must file Form 1964 to be eligible to prescribe, administer or dispense narcotics.

The reason for this exception will be apparent when it is noted later that the Com-

FORM 1964 OCT 1954	U. S. TREASURY DEPARTMENT INTERNAL REVENUE SERVICE **CERTIFICATION OF EXEMPT OFFICIAL** **(NARCOTICS)**	FOR DISTRICT DIRECTOR'S USE ONLY IDENTIFICATION NUMBER NUMBER OF ORDER BLANKS ISSUED

TO **DISTRICT DIRECTOR OF INTERNAL REVENUE**	ADDRESS *(City and State)*
NAME OF INDIVIDUAL CERTIFIED AS EXEMPT	ADDRESS *(City and State)*
OFFICIAL TITLE *(Purchasing Officer, Medical Director, Surgeon, etc.)*	NAME OF INSTITUTION, FACILITY, HOSPITAL, AGENCY OF GOVT., ETC.
NAME OF GOVERNMENT *(United States, State of Iowa, Territory of Hawaii, City of Erie, etc.)*	
OFFICIAL NAME OF DEPARTMENT	

CHECK ALL FUNCTIONS OFFICIAL IS REQUIRED TO PERFORM IN CONNECTION WITH NARCOTIC DRUGS AND PREPARATIONS	☐ PURCHASE	☐ PROCURE FROM OFFICIAL STOCKS
	☐ ADMINISTER	☐ DISPENSE

This is to certify that the above named official in the course of his duties is required to perform function(s) as indicated above in connection with narcotic drugs and preparations. Attached is an inventory of all such narcotic drugs and preparations held by the said official on the date of this certification in his official capacity as indicated.

DATE	SIGNATURE OF CERTIFYING SUPERIOR	OFFICIAL TITLE

INSTRUCTIONS

1. The inventory must be prepared in duplicate and one copy retained by the person being certified as an exempt official.

2. Medical purchasing officers of the Army, Navy, Air Force, Public Health Service, and National Guard will be certified by a superior official of the respective Services as provided in Article 92 of the Narcotic Regulations No. 5.

3. Civil officers of the United States, the District of Columbia, the several State, territorial, and municipal governments will be certified in the manner provided in Article 93 of Regulations No. 5.

4. The official signing the certificate must be an official superior of the person named in the certificate as qualified and required to perform the indicated functions involving narcotic drugs and preparations.

5. No inventory of drugs on hand is required from officials of the United States Government.

6. Any and all functions to be performed by the certified official should be indicated by appropriate check marks in the spaces provided. Only those certified as authorized to purchase narcotics will receive official order blanks enabling such purchases to be made.

This certification expires at the close of June 30th following its date. Yearly renewal is required.

FIG. 1.

missioned Officer carries a Corps identification and individual Jacket or Serial Number to identify his position.

(B) Civil Officers of the United States or the District of Columbia *or any State*, Territory or insular possession of the United

INVENTORY OF NARCOTIC DRUGS AND PREPARATIONS *(Enter below the taxable narcotic drugs and preparations on hand this date)*	DATE OF INVENTORY
NAME AND DESCRIPTION OF DRUG OR PREPARATION *(If in pill or tablet form, give size of pill or tablet)*	QUANTITY *(In gallons, pints, pounds, ounces grains, pills or tablets)*

GP O 883282

FIG. 1a (Form has space for 26 entries). This is the reverse side of Form 1964 (Fig. 1).

States *or any county,* Municipality or other political sub-division, who are engaged in any activity mentioned in the Act and who claims exemption from registration and tax under the Act, must file Form 1964 (Certification of Exempt Official) with the District Director of Internal Revenue for the District in which they are located. The forms shall be from a superior official showing the official status of the person claiming exemption and whether he is to (1) procure the narcotics or obtain them from official stocks and (2) whether or not the officer is to administer or dispense narcotics.

It will be noted in this grouping that civil officers must file if they are to engage in *any* of the four activities—procurement, purchasing, administering and dispensing.

For example, a State employed hospital pharmacist that dispenses *only,* must file, similarly the physician and dentist. Nurses in all instances, being considered as agents of physicians, are not required to file unless they are involved in procurement or purchasing activities.

PROCUREMENT OF NARCOTICS BY "EXEMPT OFFICIALS"

Officials approved by the District Director of Narcotics upon submission of Form 1964 are assigned an exemption identification number (not required for Commissioned Officers not engaged in procurement or purchasing).

This number is maintained for the period the official is entitled to exemption in the area covered by the Narcotic District.

In filing Form 1964, an inventory must be attached of all narcotic drugs and preparations held by the applying official on the date of application for certification. Officials of the U. S. Government are exempt from the inventory filing requirement.

Exempt officials that are certified as *purchasers* of narcotics by the Narcotic Bureau are issued, without charge, and without additional request, a book of official narcotic order blanks.

These blanks are prepared, processed, filed and handled in the same manner as is applicable to other registrants (non-exempt officials) under the Act.

Orders for *exempt preparations* are not to be prepared on these official narcotic order forms but on official stationary of the institution or agency for which they are purchased. Such order shall carry the exemption identification number assigned to the purchasing official by the District Director. The signature of the exempt official must appear on all narcotic orders.

In the event that an "exempt official" is replaced by another or for any reason is no longer authorized to make purchases of narcotics, the unused official order blanks remaining in his custody must not be used by his successor but should be returned to the District Director for cancellation.

Requests for additional order forms are made on Form 679, a copy of which is found in each book of forms issued.

Exempt officials are covered only as to their official acts in the institutions they serve. The right does not apply to any private business or practice.

Narcotic Prescriptions

Prescriptions are to be prepared on the hospital's official prescription blanks, if such are provided, otherwise on official stationery.

Narcotic prescriptions shall bear the signature, title, official address and exemption identification number of the person by whom executed. Commissioned Officers, including commissioned interns and residents, to whom no exemption identification number is issued, shall give on the prescription, in lieu of the exemption identification number, the Corps and Jacket or Serial Number of the issuing officer. Example: P.H.S. 6195.

These prescriptions issued in the course of official professional practice *only* (the right to prescribe is here limited by law to patients assigned by superiors, and may never be exercised for private patients) may be filled by a duly registered pharmacist (in or out of the hospital such as a community practitioner of Pharmacy) although such prescriptions do not bear a registry number of the issuing practitioner.

In prescribing and dispensing narcotic drugs *to private patients*, the officer is subject to all requirements of the Federal Act including registration and payment of tax as are imposed upon other physicians conducting private medical practice.

Other features of Chapter VI, Regulation No. 5 (Special Exemptions) and Treasury Decision No. 48, deal with narcotic drugs and preparations for ocean going vessels. Civil Defense organizations, and shipment to the Panama Canal Zone, Virgin Islands and Puerto Rico are also covered by Regulations but are of little interest to this discussion.

Of Special Interest to Physicians Serving in Public Health Service Hospitals

Concerning the supplying of narcotics and narcotics preparations to ocean going vessels, this is a limited procurement process applicable to vessels maintaining medicine chests or dispensaries and engaged in international trade or trade between ports of the United States and merchant vessels belonging to the Government.

Narcotics and narcotic preparations for these vessels are obtained only (1) by the physician employed upon such vessel and duly licensed in some State, Territory, or District of Columbia to practice his profession or (2) by a retired Commissioned Medical Officer of the U. S. Army, Navy, or Public Health Service employed on such vessels or (3) if no surgeon, physician or retired Commissioned Officer of the U. S. Army, Navy, Air Force or Public Health Service is employed on such vessel, then by the master, *but only with the approval of a Commissioned Medical Officer of the U. S. Public Health Service* (who is usually stationed at a U. S. Public Health Service Hospital), upon a special form procurable from such officer (See Figs. 2 and 2a). This form "Purchase Order for Narcotic Drugs Supplied to Vessels" (P.H.S. 2341-12-54) is made out in quadruplicate—a vendor's copy (original), a master's copy (duplicate), the Commissioner's copy (mailed to the Commissioner of Narcotics, Washington, D.C. by issuing officer), and the Medical Officer's copy.

Public Health Service Circular No. 52, dated January 1939 (see also P. & S. Order No. 49-July 1, 1947) from the Office of the Surgeon General, Public Health Service reads in part: "The Medical Officer of the Public Health Service, to whom a purchase order is presented (for narcotics on ocean going vessels), shall satisfy himself that the provisions of the above (procedure for obtaining narcotics for ocean going vessels) are compiled with and in approving such orders, shall, *in each case*, consider the *advisability* of permitting the medical supplies requested, or any part thereof, to be purchased for use on board the vessel.

Summary

The need for a short summarization of the law and regulations of the Harrison Narcotic Act as they relate to Federal and State operated hospitals is noted. A short discussion is presented concerning the three main issues involved—narcotic registration, procurement and prescription writing and filling. Much of the material presented is as stated in

PHS-2941 12-54 (OLD FORM 1914)
DEPARTMENT OF HEALTH, EDUCATION, AND WELFA
PUBLIC HEALTH SERVICE

(TRIPLICATE)

COMMISSIONER'S COPY

PURCHASE ORDER FOR NARCOTIC DRUGS SUPPLIED TO VESSELS

NOTIFICATION.—As authorized by the Commissioner of Narcotics and the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, narcotic drugs and preparations coming within the purview of act of Congress approved December 17, 1914, for stocking medicine chests and dispensaries maintained on board vessels engaged in international trade, vessels engaged in trade between ports of the United States, and merchant vessels belonging to the Government, may be obtained only (1) by the physician or surgeon employed upon such vessel and duly licensed in some State, Territory, or the District of Columbia, to practice his profession; or (2) by a retired commissioned medical officer of the United States Army, Navy, or Public Health Service, employed upon such vessel; or (3) if no physician, surgeon, or retired commissioned medical officer of the United States Army, Navy, or Public Health Service is employed upon such vessel, by the Master; and may be obtained only with the approval of commissioned medical officers and acting assistant surgeons of the United States Public Health Service, upon this form.

.....
(Place)

.....
(Date)

To .....

.....

.....

SIRS: You are requested to furnish the medical supplies listed below, coming within the purview of act of Congress approved December 17, 1914, to be used exclusively in stocking the medicine chest or dispensary maintained on board the .....
(Name of vessel)

This order is for exactly ..... items.

.....
(Master or ship surgeon)

Licensed .....
(State)

This is a copy for purposes of record; not to be honored as a purchase order

ITEM	NUMBER OF PACKAGES	SIZE OF PACKAGE (Number of pounds, ounces, grains, pills, tablets, etc., in each package)	NAME OF ARTICLE (Name of narcotic drug involved must be stated)	(To be filled in by consignee) NUMBER OF PACKAGES FURNISHED	DATE FILLED
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

.....
(Place)

.....
(Date)

To .....

.....

.....

SIRS: As authorized by the Commissioner of Narcotics, with the approval of the Secretary of the Treasury, you are informed that the purchase of the medical supplies listed above, the same to be used in stocking the medicine chest or dispensary maintained on board the .....
(Name of vessel)
, is hereby permitted under the law.

.....
(Signature of officer)

Title: .....
United States Public Health Service.

N. B.—Each order should be made in quadruplicate, the original to be filed with the manufacturer or dealer filling the same for filing with the official narcotic order forms of the manufacturer or dealer, as the case may be; the duplicate retained by the master of the vessel; the triplicate forwarded to the Commissioner of Narcotics, Washington, and the quadruplicate retained by the medical officer.

(SEE INSTRUCTIONS ON OTHER SIDE)

FIG. 2.

INSTRUCTIONS

Only one item may be entered on each numbered line, and the number of items entered on the form must be stated by the purchaser in the space provided at the top of the form for that purpose. An item may consist of one or more packages or bottles of the same kind and size; an item consisting of two or more such packages or bottles must always be regarded as a single item and may never be counted on the form as two or more items. The purchaser must show with respect to each item the number of packages desired, the size of each such package in terms of pounds, ounces, grains, pills, or tablets (indicating size), if in a solid form, or in gallons, quarts, pints, or ounces if in liquid form, and the name of the narcotic drug contained therein if the article is not itself a pure narcotic drug. A separate item must be made for each article of different description or size, but one item may consist of any number of packages of the same size and description. The consignor must enter upon the order form received the number of packages furnished for each item and the date when each item is filled. If an item is not filled in its entirety on a certain date the consignor must show upon the order form the number of packages then furnished and indicate thereon the date and number of packages of each subsequent shipment made to cover any part or all of the remainder of the order. The attachment of extra sheets to order forms is not permitted. If an order form is not sufficient to include all the items of an order, a second form must be used. Each order form should be executed in quadruplicate, the original to be filed with the narcotic records of the manufacturer or dealer filling the same, the duplicate retained by the master of the vessel, the triplicate forwarded to the Commissioner of Narcotics by the medical officer of the Public Health Service approving same, and the quadruplicate retained by the medical officer.

FIG. 2a (Reverse of form shown in Fig. 2).

Treasury Decision No. 48 and Chapter 6 of Regulation No. 5 of the Harrison Narcotic Act. However, attention is focused on certain items that have been subject to questions of exempt officials such as the necessity of the "exempt officials" provision and differences in procedures between Civil Officers and enlisted and Commissioned Officers of the uniformed services. The need for relating this supplement to the original paper by the same authors on the subject (*Hospital Management*, May 1957) as well as to Regulation No. 5 and Treasury Decision No. 48 is noted.

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Supplement. Also published as *Supplement* to original narcotic control article by same authors in *Hospital Management*, Vo. 85, No. 3, for benefit of civil officers of the U. S. or District of Columbia or any state, territory, or insular possession of the U. S., or any county, municipality or other political subdivision thereof. "Your Responsibility for Narcotics" is the original article referred to in this paper and is available in reprint form for 25¢ (money order, check, or coin) from Reprint Editor, *Hospital Management*, 105 W. Adams St., Chicago 3, Ill.

National Clearinghouse for Poison Control Centers*

By
HENRY L. VERHULST†

THE first half of the twentieth century has witnessed tremendous advances in technical and scientific achievements, many of which have enabled us to make great strides in the control of disease. To illustrate the significant reduction in diseases, I need but mention the following mortality figures for 1955: scarlet fever (51), diphtheria (150), whooping cough (467), measles (345), and mumps (43), as compared to 1940 figures: scarlet fever (668, diphtheria (1457), whooping cough (2926), measles (706) and mumps (118).

Is it not paradoxical, then, that this same industry which has been successful in producing new antibiotics, vaccines, and chemotherapeutic agents which have been so instrumental in prolonging life, should at the same time aggravate one of medicine's older problems. I refer, of course, to the treatment of poisoning. During the year 1955, 1,431 deaths were reported from the accidental ingestion of poisonous liquids and solids. While this number is not too startling, it has been estimated that approximately 100 non-fatal poisonings occur for each fatal case.

As Trichter and others point out, we have never before been faced with a greater variety or wider use of natural and synthetic chemicals. The American Medical Association reports that about 250,000 brand new chemical products are now available for industrial, farm and home use, and the list continues to grow. Within the past few years, the pharmaceutical industry has brought into being a new pharmacological class of medications—the tranquilizers. Used properly they benefit society, but ingested by the handful by two-year-olds they present another problem to the treating physician.

When one considers that children under the age of 5 years, who constitute about 10 per cent of the population, accounted for 24.3 per cent of the deaths from ingestion of solid and liquid substances during 1955, it is not difficult to see why, as far back as 1950, a number of pediatricians, physicians, public health workers, and other workers in related fields became interested in the problems of poisoning, especially in children. In 1950, the American Academy of Pediatrics Committee on Accident prevention made a survey of the nature of accidents treated by pediatricians and found that fully half of the accident cases they treated were patients who had been poisoned by household substances.

Now that they were fully aware of the problem, the study and control of these accidents became an important part of the committee's program. Under the auspices of the Illinois Chapter of the American Academy of Pediatrics, a pilot project was initiated in Chicago to attempt to find the best methods of combating such poisonings. The project was established as a poison control center, involving the cooperation of the heads of the pediatric services in the major hospitals, the Health Department, State Toxicological laboratory, and other State and local authorities. The program drew together into a working unit some 20 hospitals, 4 full-time health departments, 5 medical colleges, the local medical society, the local chapter of the American Academy of Pediatrics, and other groups. When the Chicago Center opened in November 1953, information, treatment and *prevention* of accidents were its major objectives, and procedures were developed to achieve these goals. Dr. Edward Press was chairman of the Chicago Center

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† Assistant Director, National Clearinghouse for Poison Control Centers, Accident Prevention Program, Division of Special Health Services, Bureau of State Services, U. S. Department of Health, Education, and Welfare, Washington 25, D.C.

at this time. Through his guidance, and with the support of the American Academy of Pediatrics and its Accident Prevention Committee, similar centers were established throughout the country.

The organizational patterns of the various units depend upon the facilities available to the group wishing to establish the center. Some centers utilize their city health department as the major focal point (New York). This has its advantages, for the department usually has facilities for reporting, analyzing and summarizing the case from participating hospitals. The department personnel may be used also to make any necessary follow-up home visits needed to obtain more complete epidemiological data on the poisoning cases and to give information which might aid in prevention of future cases.

Some centers are situated in the major children's hospital or the university pediatric department in their respective communities. In these instances the chief pediatric resident frequently acts as executive secretary, with the pediatric residents answering calls on poisoning. Others are situated in the emergency room of a local hospital. Here, frequently, a member of the local pediatric society acts as executive secretary. The emergency room nurse may take calls in this case, but then refers these inquiries to competent medical authorities who are on continuous call.

As the number of poison control centers increased, it became apparent that a focal point for the dissemination of materal and case reports between the various centers was desirable. On November 12, 1956 the Subcommittee on Chemical Poisons of the Committee on Research and Standards of the American Public Health Association met with a group of representatives of National Agencies and Poison Control Centers to discuss the establishment of a National Clearinghouse. This committee accepted the suggested blueprint of the Steering Committee for the formation of a National Center and further recommended that the U.S. Department of Health, Education, and Welfare be approached in regard to carrying out the proposal. On February 26, following subsequent meetings, the National Clearinghouse for Poison Control Centers was officially established in the Public Health Service, Bureau of State Services, and assigned to the Accident Prevention Program of the Division of Special Health Services.

Since that time many local communities have taken an active interest in the establishment of poison control centers. As stated before, some act independently, while others operate as master centers with city or State health departments as coordinating agencies. New York City, for example, has approximately 95 per cent of its 121 voluntary and proprietary hospitals participating in the program. In Florida, there are 16 centers all under separate operation, under grants from local pediatric groups but coordinating their activities through the State Pediatric Society. Here the State Board of Health furnishes the services of its statistical department for the compilation of the data derived from poisoning reports. The State of Connecticut in 1957 passed a bill establishing a poison control program, and allotted funds of $38,000 for operating expenses for the next two years.

The National Clearinghouse was established, then, as a service organization to aid and abet the poison control centers in decreasing the number of accidental poisonings by an active program of treatment and prevention. In order to treat a poisoning case it is necessary, first, to be able to identify the substance ingested, and, secondly, to have adequate knowledge concerning the toxicity of the substance and its pharmacological actions.

The National Clearinghouse plans, through an active campaign, to contact maufacturing units for information on all formulations of household items they market. It is hoped that once the functions of the Clearinghouse become well known, many producers will automatically forward the necessary information to us. The reports from local poison control centers, showing items ingested, should be another valuable source of infor-

mation on new products, particularly those marketed in local areas.

The problem of finding the actions of some of the chemicals used in some formulations may be a formidable one. The Food and Drug Administration requires complete studies on drugs. The Federal Insecticide, Fungicide and Rodenticide Act of 1947, administered by the Department of Agriculture, likewise requires that adequate toxicity studies be done on all new chemicals used in these products. Adequate information on other substances is often difficult to find, if not unobtainable. In some instances a thorough review of the literature may produce it; however, cases arise where adequate studies have not been made or where, if they have; the results are locked in the files of the producer. It is almost impossible to find toxicity studies on formulations per se. In most cases this can only be anticipated from the knowledge of the active ingredients. Perhaps a study of case reports may prove enlightening on some of these products.

The Clearinghouse plans to disseminate information it obtains on 5 × 8 cards which may be filed. These will show the trade name of preparation, type of product, manufacturer, ingredients if furnished, toxicity of substances, any signs and symptoms which develop, and treatment. After establishment of a basic file, we plan to furnish supplemental cards every month on new items being reported and changes in old formulations.

We hope to stimulate research into the development of new methods of prevention and treatment of poisoning cases. When reviewing the various treatments of some of the more common items ingested, it is appalling to note the tremendous differences of opinion which exist concerning proper treatment. There is need for increased basic and clinical research.

The National Clearinghouse has developed in conjunction with the American Public Health Association a proposed standard poison reporting form. These forms which have been distributed to the centers, when returned to the National Clearinghouse will be coded and tabulated. From this data, it is felt, will come information which may be of definite value in planning successful methods of treatment and prevention. Prevention, not treatment, would be the most suitable solution to the problem of poisoning. This can be done through proper education of the lay population.

A bulletin will be sent to all poison control centers at regular intervals, presenting pertinent information received from other centers. This information will include any trend in poisoning on a National basis, a bibliography of items on poisonings, suggested releases for professional and lay education as well as other related items.

I have left to the last a discussion of the function in which we have been most active since coming into being last July 1st (1957). This has to do with assisting communities in developing new poison centers. The public press has been most receptive toward printing items on poison control operations. The journals of the medical profession and adjunctive fields have been most kind in publicizing the program. The leading industrial journals have fostered the program. With such tremendous interest displayed on all sides, it is not difficult to understand why we now has 101 active centers in 35 states with additional requests for information on the establishment of centers still arriving. Since most areas are now adequately covered, however, it is expected that the demand for this service will decrease.

With all phases of industry, government and the medical professions cooperating in the establishment of this network of treatment centers, with renewed emphasis being placed on research and development of new and better treatment, and with an increased emphasis on education leading to the prevention of poisoning, it is hoped a substantial decrease in deaths by accidental ingestion of poisons will be forthcoming.

Veterans Administration Drug Selection Policies and Procedures*

By
JOHN M. GOOCH
Senior Pharmacy Specialist, Veterans Administration†

AS AN introduction to Veterans Administration drug selection policies and procedures, it may be helpful to outline briefly the usual methods or channels through which our hospitals and clinics obtain pharmaceuticals. The bulk of medications at the hospital or clinic is obtained through our depot supply system and by means of decentralized contracts with manufacturers.

In general, drugs centrally purchased for distribution through our depots are those official in the United States Pharmacopoeia and National Formulary. Among factors considered in depot stocking an item are: volume of use, the period of time the drug may continue in demand, and, of course, its suitability for storage.

Specialty products usually are made available by means of decentralized contracts with manufacturers. Contracts of this type provide for direct procurement by the hospital or clinic from the manufacturer and for direct shipment to the ordering activity by the manufacturer. Decentralized contracts are centrally negotiated and, if indicated by continuing sales volume, are renegotiated annually at the end of each contract year. Contracts are compiled and published in what is referred to as the Decentralized Schedule. This Schedule is kept current by publication of supplements throughout the contract year. These supplements inform our field stations of contracts awarded for new items during the contract year and of price changes on items already in the Schedule. Depot stocked drugs are listed in the Veterans Administration Supply Catalog.

Let us now consider how drugs are selected for inclusion in the Schedule or Supply Catalog. The popular general impression seems to be that pharmaceuticals are evaluated, approved, and standardized for the Veterans Administration by a Central Office board or committee. This impression is understandable inasmuch as contracting and cataloging are Central Office functions. In actual practice, however, drugs listed in our two publications are there only because of the demonstrated preferences of professional personnel in our hospitals and clinics.

The field of pharmaceutical research is a dynamic one. New medications, some with highly specialized use, are being introduced almost daily. Highly specialized medications or those for which there are limited clinical indications may not lend themselves to centralized contracting or bidding. Many other new drug products, at least initially, also fall into this category. Recognizing the rapid changes and developments which are being made in pharmaceuticals, it is considered good practice to permit prescribing personnel complete professional freedom in the selection of drugs for the treatment of patients under their care.

Each hospital and clinic is given the responsibility for establishing its own therapeutic armamentarium—its own formulary. Specifically the responsibility is assigned the local *Committee on Therapeutic Agents.* Staff physicans are encouraged to recommend and personally present to the Committee, new drugs in which they are interested. This Committee has the authority to recommend procurement of any drug considered neces-

* Presented at the Pharmacy Panel meeting at the 64th Annual Convention of the Association of Military Surgeons of the United States, Washington, D.C., October 28-30, 1957.

† Pharmacy Service, Veterans Administration Central Office, Washington 25, D.C.

sary or desirable in the treatment of patients in that activity. We require that each hospital and clinic have a formulary. As has just been stated, this formulary must be developed locally. As our published Catalog and Schedule are a direct reflection of prior recommendations of local committees, it is only natural that the majority of drugs in the formulary will be those from our standard sources. A formulary is not and cannot, of course, be a static thing. There are and always will be continual changes in the formulary based on local committee actions. These changes may and frequently do add drugs to the hospital or clinic formulary prior to their availability from our standard sources. In cases in which the committee selects a drug not already listed in our Catalog or Schedule immediate procurement is effected without Central Office authorization.

The local Committee on Therapuetic Agents is the most important element in our drug evaluation procedure. As drugs selected for general Veterans Administration use are based on and guided by the composite thinking of these Committees, it is essential that we be currently advised of their determinations and actions. This does not entail elaborate or detailed reports to Central Office. For our purposes committee conclusions are sufficient. These are reported in one of two ways. The first of these reporting methods makes use of copies or purchase orders. Our regulations provide that copies of purchase orders for drugs not currently listed as standard items must be forwarded to Central Office. If a hospital or clinic purchases such a drug and these purchases are repetitive it is certainly indicative of the regard for that item by the ordering activity. The second way in which the Committee may advise us of its interest in other than a standard drug is by means of a "fill-in" form. This form is used by the Committee to advise us of its interest and to recommend standardization. It is reserved for cases in which the Committee can anticipate a need for an item although there may not be an immediate need for it at that particular time. As an additional example this form also may be used when the Committee has decided to include a new nonstandard item in the formulary following depletion of existing stocks of a similar item.

A method has been developed for coding and filing information obtained from purchase orders and form letters. Under the system which has been devised this is neither a complicated nor time consuming operation. Each drug or drug form is entered on a separate card. The code indicates the hospitals and clinics interested in the item and the number of times each has effected procurement or forwarded a form recommending standardization. Tabs on the cards indicate those items in which the most active interest is being registered. A rapid review from time to time determines which items should be introduced into our system. A review of the cards also points up trends and can be valuable in anticipating future requirements for drug products. As we realize, in the case of pharmaceuticals, frequently it is not possible to base plans for future needs on past usage. Close liaison and cooperation with Supply Service assures that depot stocks and Veterans Administration contracts reflect the medical preferences of professional personnel at the hospital and clinic level.

Just as we solicit and need the cooperation of each Committee on Therapeutic Agents, we in turn keep each Committee informed of the most recent actions being taken to add new drugs to our standard Catalog and Schedule. Committees are immediately informed by means of an "All Station Letter" of drugs which, based on their recommendations, are in the process of standardization. This letter automatically relieves the committee of the need to forward copies of purchase orders or recommendations for the drugs mentioned. In effect it authorizes routine procurement.

Drug selection and evaluation by the hospital and clinic has been found to result in sound therapeutic practices. In addition, this policy has been found to make a real contri-

bution to the teaching functions of the hospital. Staff physicians are encouraged to propose drugs to the committee which they feel should be routinely available in the hospital. Group discussions on the drugs must include such topics as their pharmacology, clinical references and experiences, and clinical indications for use. Consideration must also be given essential differences from other drugs currently available at the activity and whether the proposed drugs present any improvements or advantages over other agents in the same therapeutic category.

So much for the process of drug selection. With this function assigned our activities, it is the responsibility of Central Office to act as expeditiously as possible on their recommendations; to assure the best obtainable quality in drugs selected for depot stock and competitive procurement; and to make the recommended item available as economically as possible. With these as our aims, criteria have been established for the inspection of manufacturing plants of prospective bidders. Manufacturing plants must satisfactorily pass this inspection prior to inclusion on the list of bidders. Each shipment of drugs and each lot in every shipment must pass both laboratory examination and physical inspection, and, in addition, specifications are under continual study and review and, where indicated, revision.

Summary

The Veterans Administration drug selection policy is as follows:

First, drugs for standard stocking in the pharmacy normally are selected from: the Veterans Administration Supply Catalog, the Decentralized Schedule and current supplements, and from "All Station Letters" announcing new drugs prior to inclusion in the Catalog or Schedule.

Second, drugs not included in the above categories are approved locally for procurement when considered necessary by the hospital or clinic Committee on Therapeutic Agents.

Third, copies of purchase orders for drugs not listed as depot stock, on decentralized contract or in Central Office letters are forwarded to Central Office each time procurement is effected.

We have found our method to work well; to prevent an accumulation of obsolescent items; to result in sound therapeutic practices and to meet with the approval, interest and cooperation of our professional staff.

Medical Dispensary, Philadelphia Naval Shipyard

By

CAPTAIN CHRISTOPHER C. SHAW* (MC), *U. S. Navy*

AND

A. JOSEPH KEHNER†

FOR generations, Philadelphia has been known as a base of maritime and naval activities. As early as 1682 when William Penn awarded land grants in Pennsylvania he enjoined settlers to "spare all smooth and large oak trees suitable for ship timber." Here, was the birthplace of the United States Marine Corps on 10 November 1775. The hoisting of the first American colors by First Lieutenant (later Captain) John Paul Jones took place aboard the United States Frigate *Alfred* in the Delaware River on 23 December 1775.

During the American Revolution, some 14 commerical shipyards in Philadelphia converted a number of privateers to "ships-of-the-line" for the State Navy of Pennsylvania, which assigned these vessels to the Continental Naval service.

On 29 March 1794, Congress authorized a Naval Armament for the United States. Four years later the Congress passed an act "creating the Navy Department" and provided $50,000 for dock construction together with another $1,000,000 for shipbuilding. In 1801 the United States Government purchased the facilities of the largest commercial shipbuilder, Joshua Humphries, and established the first naval shipyard in Philadelphia at the foot of Federal Street.

The State Legislature of Pennsylvania in February of 1863 ceded to the United States for the sum of one dollar League Island at the confluence at the Delaware and Schuylkill Rivers at the southern terminus of Broad Street, Philadelphia. President Abraham Lincoln accepted this "gift" from the Commonwealth of Pennsylvania for a Naval Base because League Island is 85 miles from the sea, provides fresh water anchorage for many deep-draft ships and also because there is a minimum ice hazard in the Delaware River during the winter and early spring. In 1876 the Philadelphia Navy Yard was transferred from Federal Street to League Island where the United States Naval Base and Headquarters of the Fourth Naval District also are now located.

Approximately eighty years ago, the Medical Dispensary was established in a building which formerly was a farmhouse on League Island consisting of four rooms which served as an office for the yard surgeon, record office, dressing room and pharmacy. The original Medical Department personnel consisted of two medical officers, one hospital steward and two hospital apprentices. Until 1908 the yard surgeon was directly responsible for his department as representative of the Bureau of Medicine and Surgery. The original designation of the "yard surgeon" was later changed to "medical officer of the yard" and more recently to Medical Officer on the Staff of the Shipyard Commander.

During World War I the basic services of the medical dispensary expanded to include x-ray and laboratory facilities, dental offices, labor board examining room and physiotherapy. The staff consisted of five medical officers, four dental officers, one chief pharmacist, two nurses and sixteen hospital corpsmen who rendered medical services to civilian employees in the Shipyard as well as to military personnel and to their dependents at the Naval Base.

The opinions or assertions contained herein are the private ones of the authors and are not to be construed as reflecting the views of the Navy Department or the naval service at large.

* The Medical Officer, U. S. Naval Base, Philadelphia 12, Pennsylvania.

† Civilian Administrative Assistant, Medical Department, Philadelphia Naval Shipyard, Philadelphia 12, Pennsylvania.

During World War II, industrial activity in the Philadelphia Naval Shipyard rapidly outgrew the then available facilities in the Medical Department so that by 1942 it was necessary to construct a modern two-story brick and concrete, fire-proof structure. The professional staff expanded to sixteen medical officers, fifteen dental officers, twelve nurses, three hospital specialists (Medical Service Corps Officers), one hospital corps officer and 104 hospital corpsmen. The average complement of the Philadelphia Naval Shipyard at the height of the war effort in 1943 was 55,580 personnel of which number some 47,000 were civilian employees.

Installations now number twenty productive shops, three service shops, five drydocks, two marine railways, ten piers, and an industrial laboratory together with 7,000 feet of waterfront wharfage and 40 miles of railroad tracks. Each year numerous submarines report to the Philadelphia Naval Shipyard for installation of special electronic equipment. Of the five drydocks located on League Island, two are among the largest in the world and are capable of handling aircraft carriers of the *Forrestal* class. In 1955 the USS *Boston* (CAG-1) and in 1956 the USS *Canberra* (CAG-2) were commissioned at Philadelphia. They are the first pair of guided-missile ships in the nautical history of the world.

The average working force during peacetime is approximately 10,000 personnel. Thus, the Philadelphia Naval Shipyard is fifth in size among the eleven shipyards operated by the Federal Government in Portsmouth, New Hampshire; Boston, Massachusetts; Brooklyn, New York; Philadelphia, Pennsylvania; Norfolk Naval Shipyard, Portsmouth, Virginia; Charleston, South Carolina; Long Beach, California; Hunters Point, San Francisco; Mare Island in Vallejo, California; Puget Sound Naval Shipyard in Bremerton, Washington; and the U. S. Naval Shipyard in Hawaii on the Island of Oahu.

There are a number of military commands located at the Naval Base in Philadelphia under the Commandant of the Fourth Naval District. In addition to the Philadelphia Naval Shipyard, military activities include the Naval Aviation Material Center (the Naval Aircraft Factory, the Naval Air Experimental Station, the Air Crew Equipment Laboratory and the Naval Auxiliary Air Station, Mustin Field—a combined census of better than 6,000 employees), the Receiving Station, the U. S. Marine Corps Barracks, the Damage Control Training Center, the Naval Boiler and Turbine Laboratory, the Disciplinary Barracks, the Philadelphia group Atlantic Reserve Fleet, and the Ammunition Depot at Fort Mifflin. The military complement varies from 4,000 to 5,000 officers and men, depending on the number of ships in port for overhaul, modernization and conversion. The medical and psychiatric services for this entire group—some 25,000 civilian and military personnel—are provided by the Dispensary, which also serves components of the visiting Fleet as well as civilian employees working in the Shipyard and military personnel and their dependents living on the Naval Base.

The main function of the Medical Dispensary at a naval industrial activity is the provision of first aid emergency care and treatment of occupational illnesses and injuries to civilian employees in the Navy Yard and to military personnel of the Naval Base and visiting ships-of-the-line. In order to accomplish its mission, the Medical Department is organized into four divisions: General Medicine, Industrial Medicine, Administrative, and Sanitation and Preventive Medicine Division.

Under General Medicine falls the responsibility for sick call, laboratory services, x-ray and pharmacy. The Industrial Medicine Division is composed of an industrial hygienist, two optometrists and civilian scientists and secretaries working in the field of Industrial Medicine. The duties of the Administrative Division revolve around personnel, finance, records and clerical supervision. The Division of Sanitation and Preventive Medicine is concerned with venereal disease control and food service inspection and problems relating thereto under the direction of an Environmental Sanitation Officer.

The duties of the Industrial Health Officer include study of occupational health hazards and the conduct of medical surveys to evaluate toxic exposures. Other functions of this department include sanitary inspections of buildings, garbage and refuse and sewage disposal, water and milk analyses and the maintenance of a pest control program. Periodic special examinations are provided to employees exposed to industrial hazards from the foundry and the paint shop, to employees working with x-ray and radium, welders and burners, etc. Numerous studies of ventilation are undertaken whenever poisonous fumes are likely to be encountered in the various shops or aboard ships.

During 1956 medical treatment was rendered to 18,786 civilian employees and to 16,800 military personnel, making a total of 35,586 dispensary visits. In addition 11,105 military physical examinations were performed at the Dispensary which serves as a clearing house for Naval personnel in the area who are called to active duty or to training duty and those who are released from military service in the Fourth Naval District or promoted in the line of duty. An active immunization program is executed in the Dispensary; on a routine basis, some 10,900 inoculations were administered in 1956.

Particular emphasis is placed on the Eye Correction-Protection Program because injuries to the eyes and eventual loss of sight are one of the great hazards of heavy industry. The records of the Division of Optometry in the Medical Dispensary indicate a grand total of 22,869 visits during the past calendar year. In the x-ray department, 15,248 civilians and 19,429 military personnel were "exposed" during the past year. The laboratory logged in more than 40,000 visits.

During 1956, preemployment physical examinations were performed on 1,104 applicants seeking work at the Philadelphia Naval Shipyard. An annual physical inventory was provided to some 200 upper echelon executives. Physical defects were reported to the executive's family physician. Annual pelvic examinations were offered on voluntary basis to all female employees and were accepted by 50% of the civilian women working in the Shipyard.

A special study of lost-time accidents was undertaken with emphasis on the causes and means of prevention of such injuries. By virtue of the combined teamwork of our "entire industrial family," there was a 50% reduction in the frequency of lost-time accidents from a total of 64 in 1955 to a new "low" of 28 in 1956.* As an additional "bonus" emanating from this cooperative endeavor, the injury rate for 1956 was 1.52 per million man hours of work—the lowest in the history of the Philadelphia Naval Shipyard (compared to an average accident frequency rate of 4.7 in heavy industry at large).

The mission of the Medical Division of any naval shipyard may be simply stated, "to provide modern and continuing medical and surgical care and industrial hygiene coverage at all times." Hence, it is necessary that the Medical Dispensary be manned 24 hours a day, 7 days a week, since there is no closed season for industrial accidents or illnesses.

Undoubtedly, the most important contribution of the Medical Department of a naval shipyard is to maintain the "human machine" in working order and at its highest productivity. This is especially true in any industrial organization where 85 percent of the expense of production is the investment in human personnel, their wages, salaries, retirement funds, sick leave, insurance, compensation, etc. In short, even in this age of superspecialization, no machine is better than the man who operates it. "Automation" is a current revolution within the Industrial Revolution of the past century, but even the electronic-brain is no better than the facts it receives from the human being who feeds data into the computing machine. The Medical Officer must keep the employee in sound body and mind so that he may work without hazard to himself or to others and without

* In 1957 the number of lost time accidents was reduced to 16.

loss of productive time. In order to keep the show on the road, the Medical Officer then must direct constant cooperation of the Medical Department with the shop masters, the supervisors and the civilian administrators as well as with the employees via their representatives in the various employee groups.

Because of the shortage of military doctors in uniform, the Bureau of Ships in 1954 authorized the employment of civilian physicians on Government appointments. During the past two years this program has been organized and satisfactorily carried out and was reported in MILITARY MEDICINE, August 1957 (Vol. 121:109-111). At present there are 11 civilian doctors (8 full-time and 3 on half-time basis) employed at the Philadelphia Naval Shipyard Medical Dispensary. They work effectively in conjunction and in harmony with three military medical officers. This arrangement is highly effective and requires no "justification."

The purpose of this brief communication is to demonstrate that the record of a Medical Dispensary in a naval industrial activity is its own justification. Protection of the physical health and psychological welfare of civilian employees and military personnel of the Naval Base is mandatory for the maintenance of morale and the attainment of production schedules in and by the Philadelphia Naval Shipyard. Thus, the Medical Department can (and does) provide a positive contribution to the far-flung industrial endeavor of the United States Navy in support of the Fleet.

Premature Closure of Foramen Ovale: Report of Case

By

SENIOR SURGEON LESTER R. NAGEL,* *U. S. Public Health Service*

PREMATURE closure of the foramen ovale is one of the least frequently encountered congenital cardiac malformations, and is rarely mentioned in the literature. Indeed, Patton[1] has characterized this as one of the rarest of cardiac anomalies. Lehman[2] reviewed the literature in 1927, collecting five cases and adding two of his own. Benner,[3] in 1939, reported two cases. Single cases were added by Kreutzer and Visillac[4] in 1942, by Edwards and DuShane[5] in 1950, and by Raeburn[6] in 1951. Brody[7] reported two cases in 1953, and in the same year, Wilson, Lyon and Terry[8] reviewed the literature at length, collecting four additional cases and adding two of their own. Thus, there are 20 known cases. The purpose of this paper is to report an additional case rather than to add to the excellent reviews already published.

CASE REPORT

A full-term male infant was born following an uneventful first pregnancy. The first stage of labor was 13 hours; the second stage was one hour and 45 minutes, and delivery was spontaneous with outlet forceps. The infant's condition appeared momentarily good, but deep cyanosis developed within the first few minutes of life. As long as oxygen was given, the cyanosis was relieved, but at the end of four hours of life, bloody froth began issuing from the nose and mouth, and both the heart and liver were visibly enlarged. Death occurred 20 minutes later.

Autopsy was performed one hour after death. Apart from general deep cyanosis, there were no external abnormalities. The body weight was 3100 gm. The lungs were dark red, greatly congested, and the combined weight was 76 gm. The bronchial tree was filled with frothy, blood-stained fluid. The liver weighed 116 gm., and was moderately congested. The spleen weighed 8 gm. A minute accessory spleen was found in the pedicle.

The heart weighed 16 gm. It was globular in configuration with marked predominance of the right ventricle and atrium. The left atrium was distended with blood, but the left ventricle was inconspicuous. The pulmonary veins and venae cavae entered the heart normally. The pulmonary artery and aorta were of normal configuration and were joined by a prominent ductus arteriosus. The interatrial septum was completely closed, without signs of the fossa ovalis. The right ventricle was larger than the left, its wall being 5 mm. in thickness; that of the left was 4 mm. in thickness. The four valves were normal in configuration, but the cusps of the mitral valve were small in comparison to the others. The tricuspid valve was 3 cm. in circumference; the mitral valve, 2 cm.; the pulmonary valve, 2 cm.; and the aortic valve, 2.5 cm. The ductus arteriosus was 9 mm. in circumference. The coronary arteries were normally situated.

Microscopic examination showed intense pulmonary congestion and edema, marked hepatic congestion, and hypertrophy of the musculature of the right ventricle.

DISCUSSION

The closure of the foramen ovale before birth distorts cardiac development so that the heart is incapable of adequate function after birth. Normally, at least half of the blood entering the left side of the fetal heart is transmitted by the foramen ovale. Premature closure deprives the left side of the heart of all blood from the placental and systemic circulations, and only the pulmonary circulation, relatively small in the fetus, empties into the left atrium. Because of this overload on the right side, decompensation with general anasarca may result, or the two sides may adjust to their respective loads. The

* Chief, Pathology Service, U. S. Public Health Service Hospital, 15th Avenue and Lake St., San Francisco 18, Calif.

right chambers of the heart then undergo dilatation and hypertrophy, while the left chambers are not adequately expanded and become hypoplastic, but not atrophic since its muscle still must pump against the pressure in the great vessels.

During fetal life, the right ventricle must assume the entire burden of the systemic circulation, pumping blood by way of the ductus arteriosus. This may be tolerated antenatally while the site of oxygenation is the placenta. With this function transferred to the lungs after birth, only venous blood can be pumped by the right side, and oxygenated blood from the lungs must be pumped by the left side. The volume of blood in the developing pulmonary circuit cannot be accommodated by the hypoplastic left atrium and ventricle. The inevitable course is a fatal anoxemia accompanied by cyanosis and dyspnea.

The cause of this malformation, like that of most congenital heart disease, is unknown. The absence of the fossa ovalis in this case suggests that the interatrial septum primum failed to perforate to form the foramen secundum. It is of interest to note that this defect has been produced experimentally in rat fetuses subjected to roentgen irradiation on about the ninth day of gestation.[9]

Summary

A case of antenatal closure of the foramen ovale is presented. This rare anomaly has been reported but 20 times before. The absence of the fossa ovalis in this case suggests that the interatrial septum primium failed to perforate to form the foramen secundum.

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Cardiovascular Evaluation of West Point Cadets: A Four-Year Report*

By

COLONEL LAWRENCE J. MILCH, USAF (HSC), *et al.*†

INTRODUCTION

IN THE American male population, coronary artery disease and the other clinical manifestations of atherosclerosis exert a heavy drain on manpower. A method for the early identification of individuals predisposed to coronary artery disease would be of considerable value in personnel utilization at all levels. Such a screening method has been the objective of much of the cardiovascular research of the past twenty years.

The report by Gofman et al.,[1] in 1950 that the serum lipoprotein concentrations determined by ultracentrifugation were statistically correlated with the incidence of coronary disease in the American male gave renewed impetus to the search for the most significant screening measurement. Other measurements which have been used, or suggested for use, in the past seven years included serum cholesterol concentration,[2] serum phospholipid concentration,[3] the serum cholesterol-phospholipid ratio,[3] the α-β lipoprotein ratio as determined by electrophoresis,[4] the electrophoretic concentration of serum β-globulin,[5] and combinations of such type measurements.[6]

At the School of Aviation Medicine, USAF, a study was begun in 1950 to determine whether or not a blood serum parameter could be utilized in a cardiovascular evaluation program fitted to the needs of the Armed Forces. Previous work relating a blood variable to coronary incidence had been done with normal groups and groups with proven atherosclerosis, the division being made on the basis of clinical manifestations of the disease process, e.g., proven myocardial infarction. More valuable from the point of view of both the Armed Forces and the civilian population would be a blood constituent that would segregate, within a normal young healthy male population, those in whom coronary disease would become clinically manifest in future years. Such a blood variable would not only be useful for purposes of selection for particular job fields, but would indicate the need for a program of preventive medicine in those individuals identified as susceptible. It was unwarranted to assume that the blood variable which distinguished between normal and diseased groups was the parameter which would segregate the susceptible group from the normals, although it was reasonable to expect that the two variables might be closely related.

It was decided to obtain a group of healthy normal young males (a) whose initial blood samples could be obtained, (b) on whom follow-up samples could be obtained at prescribed intervals for a 30-year period with a minimum of location and participation difficulties, and (c) who would be living in comparable situations. A suitable group for such a study was located at the United States Military Academy (USMA), where, during the initial four-year training period, the cadets are all exposed to a uniform diet and training plan, and most of whom become

* From the Department of Pharmacology and Biochemistry and the Department of Biometrics, School of Aviation Medicine, U. S. Air Force, Randolph Air Force Base, Texas.

† Individuals concerned in the collection and preparation of these data are as follows: Colonel Lawrence J. Milch, USAF; William F. Taylor, Ph.D.; First Lieutenant Bernard S Schlessinger, USAF (MSC); Harry M. Hughes, Ph.D.; Captain Robert F. Redmond, USAF (MC) (present address: Oklahoma City, Okla.); Captain Norman Weiner, USAF (MC) (present address: Harvard Medical School, Boston, Mass.); First Lieutenant William W. Calhoun, USAF (MSC) (present address: Houston, Tex.); and Staff Sergeant Richard A. Yarnell, USAF (present address: Albuquerque, New Mexico).

TABLE I. PHYSICAL AND BLOOD MEASUREMENTS MADE ON USMA CADETS OF THE CLASS OF 1956

Variable Observed	Year of Observation	Number Observed	Mean	Standard Deviation	Range
Age	1952	593	19.6	1.2	17–22
	1954	485	21.5	1.2	19–24
	1956	459	23.5	1.2	21–26
Height	1952	608	70.5	2.2	65–77
	1954	499	70.7	2.3	61–76
	1956	479	70.6	2.2	62–76
Weight	1952	608	158.3	16.9	120–220
	1954	499	165.5	16.7	105–220
	1956	478	166.2	16.7	109–220
Ht./Wt.	1952	608	45.0	4.0	33–56
	1954	499	43.1	3.6	33–58
	1956	478	42.8	3.7	33–57
Cholesterol	1952	511	184.8	39.2	39–371
	1954	483	219.3	36.8	111–353
	1956	479	235.3	41.5	127–448
Phospholipid	1952				
	1954	144	8.7	1.2	5.2–11.2
	1956	479	9.6	1.2	6.3–13.7
A.I.	1952				
	1954	486	27.2	7.6	11–65
	1956	478	40.7	13.5	12–121
Liproprotein Classes					
S_f^0 0–12	1952	394	183.8	48.9	36–375
	1954	486	195.8	49.4	71–376
	1956	478	288.5	76.9	76–716
S_f^0 12–20	1952	521	21.0	10.7	1.56
	1954				
	1956	472	20.6	15.6	3–110
S_f^0 20–100	1952	516	30.2	19.3	1–155
	1954				
	1956				
S_f^0 20–400	1952				
	1954				
	1956	475	47.7	43.4	4–399
S_f^0 12–400	1952				
	1954	486	43.5	30.3	3–301
	1956	478	67.7	54.6	3–476
1.2	1952				
	1954				
	1956	475	272.8	67.2	31–515

career officers. The USMA Class of 1956 was selected to participate in the project.

Experimental

Personal and family histories were obtained on 608 cadets in 1952. Blood samples were drawn and analyzed for the ultracentrifugal concentrations of the S_f 0-12, S_f 12-20, S_f 20-400 lipoprotein classes by methods described elsewhere.[7] In addition, serum cholesterol levels were measured. Unfortunately, except for cholesterol, these early analyses were made by methods which have since been modified and improved.[8, 9] Consequently, the observations for 1952 are not strictly comparable with those made later.

In 1954, the entire procedure was repeated on 493 of the same group of individuals plus 7 others who had been missed before. In this series two more variables were measured; the serum phospholipid level (only 144 determinations were made in 1954), and the ultracentrifugal concentration of the S_f^0 100-400 liproprotein class. An atherogenic index was also calculated for each cadet.

The blood sampling in 1956 was done on 479 of the 480 cadets remaining in the class. It was used to provide data on all the parameters measured in 1954, plus a measurement of the ultracentrifugal concentration of the 1.2 liproprotein class.

Plans for the future include surveying all graduates of the Class of 1956 every two years. This will be accomplished by the monitoring agency. It is hoped that the period of investigation will carry into the sixth decade of life, during which time the results will demonstrate whether or not any of the blood lipid measurements made during cadet years can be used to predict extraordinary predisposition to coronary artery disease.

Discussion

A summary of the measurements made in 1952, 1954, and 1956 is presented in Table I. Cholesterol values for the group show a steady increase from a mean of 184.8 in 1952, to 235.3 in 1956. Observed simultaneously is an increase in weight and a decrease in the height/weight ratio. Statistical analysis of the data indicates that the change in body weight over time is significantly correlated with the change in cholesterol at a .05 level of significance. The correlation coefficients are small, however, being .16 for 1952-56 and .10 for 1952-54, with .11 for 1954-56. This indicates that there is only a slight tendency for men with larger weight gains also to have larger cholesterol gains. Serum phospholipid concentrations and the concentrations of each of the lipoprotein moieties measured, including the Gofman atherogenic index, seem to follow the same course noted for cholesterol. Changes with time in the means of cholesterol (1952, 54, 56) and AI, S_f^0 0-12, S_f^0 12-400, and phospholipid (1954, 56), are highly significant statistically.

Although nothing can be said as yet regarding the relative importance of any of these variables as a means of segregating the coronary susceptible group, these data indicate probability of an individual, whose blood parameter values are in the top level of the group, retaining his high rank in future studies. In order to study the stability over time of the blood values, rank correlation coefficients were computed and are given in Table II. The probability, under the hypothesis of no correlation, of getting a rank correlation coefficient of 0.12, or higher, is 0.01. Since all values are considerably higher than 0.12, there would appear to be a highly significant rank correlation for each variable studied.

Table II. Rank Correlation Coefficients for Various Observed Variables

Variable	Years	Correlation Coefficient
Cholesterol	1952–54	.40
	1952–56	.42
	1954–56	.69
S_f^0 0–12	1954–56	.57
S_f^0 12–400	1954–56	.44
A.I.	1954–56	.54
Phospholipid	1954–56	.73

TABLE III. DISTRIBUTION OF SUBJECTS WHO WERE IN THE UPPER 10% AT ONE OBSERVATION BY THEIR RANK ORDER AT A LATER OBSERVATION

Variable	In Upper 10%		Observed Later During Year	Percent of Subjects with Later Observation in		
	No. of Subjects	Year		Upper 10%	Upper 20%	Upper 50%
Cholesterol	38	1952	1954	36.8	55.3	84.2
	38	1952	1956	31.6	52.6	76.3
	38	1954	1956	60.5	76.3	94.7
A.I.	39	1952	1954	28.2	53.8	84.6
	39	1952	1956	30.8	43.6	71.8
	39	1954	1956	46.2	61.5	84.6
S_t^0 0–12	39	1952	1954	28.2	38.5	74.4
	39	1952	1956	30.8	46.2	79.5
	39	1954	1956	35.9	41.0	76.9
S_t^0 12–400	45	1954	1956	42.2	55.6	80.0

TABLE IV. ASSOCIATION OF S_t^0 12–20 AND AI WITH DEVIATION OF WEIGHT FROM STANDARD WEIGHT,* USMA CLASS OF 1956. OBSERVATIONS MADE IN 1956

Deviation of Weight from Standard*	S_t^0 12–20**			A.I.**		
	n	mean	S.D.***	n	mean	S.D.***
(1) Over 20 lbs underweight	15	14.9	9.2	15	38.8	10.5
(2) 15–19 lbs underweight	17	14.2	9.1	17	38.5	10.8
(3) 10–14 lbs underweight	29	16.3	11.8	29	35.6	10.5
(4) 5–9 lbs underweight	42	16.6	13.0	45	36.5	11.5
(5) Normal weight ±4 lbs	122	21.0	14.8	123	40.8	13.1
(6) 5–9 lbs overweight	80	19.7	15.6	81	39.9	11.3
(7) 10–14 lbs overweight	73	20.6	16.2	73	40.3	13.1
(8) 15–19 lbs overweight	45	27.1	20.6	46	44.4	17.4
(9) Over 20 lbs overweight	48	25.2	16.8	48	46.7	16.9

* Standard weight is specific for height and age. It was taken from Air Force Regulation 160-1.
** Differences among these means were significant at the .01 level.
*** Standard deviation.

TABLE V. FAMILY HISTORY OF HEART DISEASE AND LEVELS OF VARIOUS BLOOD VARIABLES (1956)

Family History of Heart Disease	BLOOD VARIABLES																	
	Cholesterol*			Phospholipid			S_f^0 0–12*			S_f^0 12–20			S_f^0 20–400			AI			1.2		
	n	mean	S.D.**	n	mean	S.D.**	n	mean	S.D.**	n	mean	S.D.**	n	mean	S.D.**	n	mean	S.D.**	n	mean	S.D.**
None in Immediate Family	403	233.4	40.0	403	9.5	1.2	402	285.5	75.1	396	20.5	15.7	400	48.0	43.3	402	40.4	13.4	399	271.6	68.2
At Least One Parent or Sibling with History of Heart Disease	76	245.8	47.6	76	9.8	1.4	76	304.4	84.9	76	21.3	15.5	75	45.8	44.2	76	42.0	14.2	76	279.4	61.7

* Means are significantly different at the .05 level.
** Standard deviation.

Another way of analyzing the data is to forecast, on the basis of observed results, how many of the subjects found in the upper 10% of the group in one year with respect to a given variable, will be found in the upper 10%, upper 20%, or upper 50% of the group in a later year. The results of such an approach are tabulated in Table III. With this table we can answer questions such as, "If cholesterol is used as the segregating blood variable, how many of those who ranked in the highest 10% in an initial test will remain in the top 10% when tested at some later period in life?" From Table III we see that 60.5% of those in the top 10% in 1954 remained in the top 10% in 1956.

These data indicate a tendency towards stability of these subjects as they grow older. This is particularly apparent in the cholesterol data. We see that 36.8% of the upper 10% in 1952 were found in the upper 10% in 1954. Two years later, however, as mentioned above, 60.5% of those in the upper 10% of the group for 1954 were found in the upper 10% of the group in 1956. These percentages differ significantly at the .05 level. The other variables in Table III give some indication—as yet insignificant—of the same trend. One should remember, however, that the 1952 lipoprotein measurements are subject to question. It appears that the most reliable variable in this age group is cholesterol.

In addition to the blood lipid variables, various personal and family history items were recorded for each subject in 1952, 1954, and 1956. In the 1956 data were included records of weight, height, personal history of disease, recent illnesses or injury, recent medication, smoking history (including quantity of cigarettes smoked), athletic prowess as judged by intercollegiate sports, weight change in the preceding 6 months, family history of heart disease, other family history, and life span of grandparents. Each of these items segregated the subjects into various groups which were ranked in accordance with amount, severity, extent, etc. These groups were then examined in light

of their measured blood lipid parameters, utilizing a one-way analysis of variance. There were 196 of these analyses from which only 2 were found to yield a significant relationship—positive deviation from standard weight appeared related to increasing S_f^0 12-20 lipoproteins and to the AI. These are shown in Table IV.

Inasmuch as family history of heart disease had been shown to have some effect in the 1952 study,[10] the subjects were reclassified according to presence or absence of sibling or parent history of heart disease. The analysis then showed a significant difference at the .05 level in the cholesterol values; those with family history of heart disease having higher cholesterol readings. There was a similar significant difference in the S_f^0 0-12 values. Table V presents the findings.

Viewed in its totality, the differences found can hardly be taken as established. A great many significance tests were performed and a very small number led to significant differences. On the one hand, these differences could have been chance differences; on the other hand, more experience and larger numbers may well lead to statistically significant differences occurring in many more variables. It would appear only reasonable to label the above findings as preliminary or tentative results.

As a matter of interest, the variables of this study were compared with those published by Gofman.[11] The levels for the 20-year age group in this study are lower than the Gofman results, particularly in the S_f^0 12-400 class. See Table VI. This situation was also encountered in a previous study of military personnel in a 30-35-year age group.[10] An explanation may lie in the thorough physical screening given Military Academy applicants.

TABLE VI. COMPARISON OF LIPOPROTEIN LEVELS IN THE MILITARY AND CIVILIAN POPULATION AT AGE 24

Levels	Civilian	West Point
S_f^0 0–12	302	288
S_f^0 12–20	49	20
S_f^0 20–400	130	47

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The Courageous Medics of Anzio, V*

By

COLONEL ROLLIN L. BAUCHSPIES, MC, *U. S. Army*†

23

AT 0430 HOURS, 29 February, Corps and Divisional artillery replied to the enemy fire with an hour long counter-preparation which blasted enemy front line positions and assembly areas. For every shell fired into the beachhead area the VI Corps gave them twenty in return. The Germans estimated that the Allied artillery fired 66,000 rounds of ammunition on 29 February, more than double that fired during any single day in the big 16-20 February battle to defend the beachhead. But artillery alone was not sufficient to stop the German attack. At first light the enemy was striking at a half dozen points along the front using both infantry and armor. Only one of these initial attacks achieved any appreciable success and this assult was assisted materially by enemy engineers opening gaps in the outer defenses with wire cutters and the use of bangalore torpedoes. This attack struck the portion of the 3rd Division line held by the 509th Parachute Infantry which was holding positions on a low hill about a mile north-east of the village of Carano.

Breaking through the most forward beachhead line of resistance the enemy drove south-west across the open fields toward the west branch of the Mussolini canal and succeeded in pentrating 800 yards to the intermediate beachhead defense line. Simultaneous enemy attacks to gain ground on the flanks of this salient failed.

During the morning of 29 February, because of the weather, Allied air effort was nullified but by 1500 hours 247 fighter-bombers and 24 light bombers were able to bomb and strafe the enemy tanks and infantry close behind the line. The Germans had gained some ground but were unable to exploit their penetration. At 1930 hours a counterattack by the 30th Infantry was launched to regain the lost ground.

Enemy artillery fire during the attack on the right flank of the 3rd Division on 29 February, fell in the area occupied by the 3rd Division Clearing Station and the 1st Platoon of the 33rd Field Hospital, in the vicinity of Acciarella. Lieutenant Colonel William J. McCarthy, Medical Corps, Commanding Officer of the Medical Battalion, 3rd Division was wounded, one enlisted man was killed, and seven enlisted men were wounded while on duty in the clearing station. This site, occupied only since 14 February, rapidly became untenable in the face of the German attack. Consequently both of these medical units were moved back to their original locations within the hospital area where they remained for the duration of the VI Corps stay on the beachhead.

On the same day that the medical units at Acciarella were shelled by enemy artillery at about 1400 hours Captain Eugene Haverty, Medical Corps, was killed by enemy artillery fire while performing his duties on the docks at Anzio. Captain Haverty was the Fifth Army evacuation officer and had been on duty on the beachhead since 1 February. Since that time he had the responsibility for supervising the loading of patients on hospital carriers in the harbor of Anzio. I was visiting the 56th Evacuation hospital that afternoon when Colonel Blesse informed me that Captain Haverty's body had been brought in. I was especially fond of this young officer, having come in contact with him a great deal prior to the Anzio operation. His death came as a profound shock to his many friends and associates for Gene was a congenial and a very likeable young officer and he did a highly commendable job under the most hazardous and adverse conditions. Captain Haverty was awarded both the Silver Star and the Legion of Merit Medal posthumously for his outstanding perform-

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† U. S. Army Hospital, Neubrucke, APO 34, New York, N.Y.

ance of meritorious service while under fire on the Anzio beachhead.

Small scale bitter fighting raged all along the front as opposing forces struggled to gain control of strategic areas. At the end of the first day (29 February) of his offensive the enemy had hardly dented the 3rd Division outer line of defense but the forward battalions of the division suffered heavy losses in stemming the enemy attacks.

The pattern of the enemy attacks on 1 March followed closely that of the preceding day but on a reduced scale. Their effectiveness was decreased by the vigorous counter measures employed by General O'Daniel to strengthen his defenses. The weather which kept Allied planes on the ground likewise hampered the movement of enemy armor and the German attacks failed to gain ground.

Clear weather on 2 March permitted the Mediterranean Allied Air Force to carry out the extensive program it had planned to execute the preceding day. It was a very impressive sight to behold 241 B-24 Liberators, 100 B-17 Fortresses with 113 P-38 Lightnings and 63 P-47 Thunderbolts providing cover coming in from the sea, flying over our heads and dropping thousands of fragmentation bombs around Cisterna, Velletri and Carocetto. The total of 351 heavy bombers was even greater than the air support given to the defenders of the beachhead on 17 February. An equally impressive sight was the force of medium, light and fighter bombers which flew over and concentrated their attacks on enemy tanks, gun positions and assembly areas. The combined effect of the tremendous weight of bombs dropped during the daylight hours on 2 March followed by night bombing of the roads about Cisterna aided materially in dissuading the enemy from continuing the offensive. Anti-aircraft fire by the enemy was intense and we suffered a number of casualties. As I witnessed this aerial effort from a forward position in the 1st British Division area, which I was visiting that morning, I was able to count more than twenty parachutes in the air at one time—crews which had bailed out after their craft had been hit.

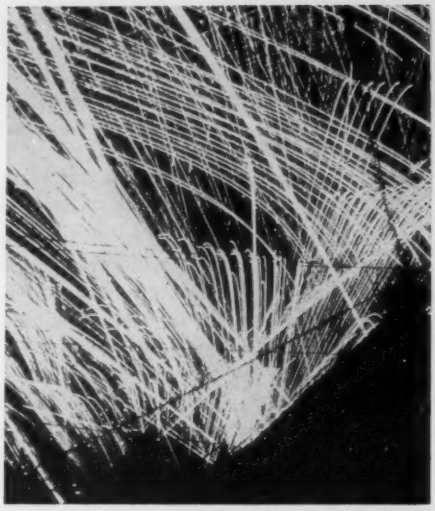


FIG. 22. Anti-Aircraft Fires Over the Hospital Area—Anzio Beachhead. (Note silhouette of hospital ward tents.)

Ground action on 2 March was greatly reduced and on a limited scale. Infiltrations tactics continued in the wooded ravines west of the Albano road.

At dawn on 3 March the enemy renewed his attacks against the 3rd Division and caused a slight withdrawal of the flank held by the 7th Infantry. In the afternoon the 3rd Division switched to the offensive and under cover of a smoke barrage launched a counter-attack at 1330 hours which stopped an enemy assault; this marked the end of the Germans' third and last major attempt to eliminate the Anzio beachhead. In this final attack the enemy had made no further progress in reducing the size of the area held by the allied forces of VI Corps.

Enemy losses both in personnel and equipment were heavy. Between 29 February and 4 March the Germans suffered 3,500 battle casualties and lost more than 30 tanks.

The six weeks of almost continuous bitter fighting and subjected to daily bombing and shelling brought the troops of the VI Corps practically to the point of mental and physical exhaustion. There had been a terrific toll in lives and of those left their energy had

been expended to a degree that was perilous, but when the enemy weakened and his attacks failed the Allied forces of VI Corps were still capable of sustained defensive fighting and succeeded in keeping their positions on the beachhead intact.

The situation in the British sector was improved by the arrival on 2 March of two units of the Royal Marine Commandos who were assigned to the 56 British Division and were immediately employed in making raids through the enemy positions along the fluid front west of the Albano road.

I would not in any way attempt to detract from the heroism displayed by the combat soldiers, the front-line defenders of the Anzio beachhead. It was they who stayed the enemy and held our defensive lines, many times by hand to hand engagements. However, we must not forget the service troops in the rear areas, those who supported their comrades up front. Many casualties occurred among the service troops who continuously carried food, water and ammunition from the supply ships lying in the harbor to the front line positions. Without these service personnel the task of holding the beachhead could not have succeeded. Great credit must be given to the courageous DUKW drivers who fearlessly operated their amphibious vehicles, transporting supplies from ships at sea to supply dumps ashore carrying patients on their return trips to hospital carriers lying outside of the harbor area. The truck drivers and the ammunition handlers deserve their full measure of credit. The ambulance drivers, and aid men, the litter-bearers, the doctors, nurses and enlisted technicians of the hospitals, the American Red Cross personnel—all of those who succored the sick and wounded and constantly strove to save lives. We must also include the personnel of the other services, Ordance, Quartermaster, Signal and Engineer—all played an important part—were essential in the performance of the mission of VI Corps—holding the Anzio beachhead. All had performed their many and varied tasks valiantly and all were fatigued and wore a harried and haggard look. The use of the terms "battle fatigue" and "battle exhaustion" had various connotations and interpretations but the expressions of "Anzio Fever" and "Nettuno Neurosis" had real clinical significance.

About this time several changes occurred among the personnel assigned to the Corps Medical Section. When General Truscott became Commander of VI Corps he brought with him Captain Carlson B. Menkle, Medical Corps who was attached to the Medical Section for duty. General Truscott was troubled with a throat condition and as Captain Menkle had treated him while in the 3rd Division this officer acted as the personal physician to the Corps Commander. The Corps Dental Officer, Major Clarence T. Richardson was transferred to the 16th Evacuation Hospital on 11 March and he was replaced by Major Harry A. Karesh, Dental Corps, from the 16th Evacuation Hospital, who became the Corps Dental Surgeon.

24

One morning, early in March, the Corps Commander sent for me. After reporting to him, General Truscott's greeting was "Bauchspies, what are you doing about the malaria situation here on the beachhead?" I explained to him what had already been accomplished; the survey by Lieutenant Colonel Jameson-Carr, my conference with General Martin and my request for the services of a malariologist and malaria survey and control team. I also informed General Truscott that I was evolving a plan for malaria control and that it would be ready for submission to him for his consideration and approval within a few days. I remarked to the general that we depended a great deal upon him in resolving the malaria situation on the beachhead. At this General Truscott raised his eyebrows and said, "What do you mean?" To which I replied, "Get us the hell off this beachhead!" The Corps Commander smiled; he knew what I meant.

For centuries the area of Italy known as the Pontine marshes were uninhabitable

because of the scourge of malaria. The Anzio beachhead was a part of this costal area. Mussolini had made the countryside immediately about Anzio and Nettuno one of his agrarian reform projects and had succeeded in reclaiming a part of this coastal waste land. The area extending from Carrocetto east to Littorio and from Anzio north to the Alban hills had been systematically ditched and the area drained by a series of canals into the main and west branch of a large canal which bore his name and which also formed the right flank and part of the central sector of the main beachhead defense line. The reclaimed area was geometrically divided into areas of similar size, each area constituting a farm. These farms had stone dwellings and each of these stone houses became strong points for defense by both opposing forces on the level plain. Fighting for possession of any one of these houses had become a major effort. Malaria was endemic in this region. Major Norman of the Allied Military Government had made a survey among the remaining inhabitants of the beachhead during the first two weeks in March in an effort to determine the splenic index for the area. He found that one out of every twenty civilians examined had chronic malaria.

It was learned from civilian sources that in 1942 there had been 5,000 Italian troops quartered in the area between Rome and the coastal plain about Anzio and that 3,000 of these soldiers had become infected with malaria.

The source of malaria organisms was not confined to the native population inhabiting the area. Thousands of VI Corps troops on the beachhead had served in North Africa, Tunisia, Sicily and/or the Salerno area in Italy and had become infected with malaria. Many of these having had suppressive therapy had not become disabled but they retained malarial parasites in their blood. I have already mentioned that it was not unusual to find malarial parasites in blood smears taken on patients who were admitted to our hospitals for other causes. Control of mosquito breeding became a matter of paramount importance in preventing the transmission of this disease to healthy individuals. Malaria could be a real menace on the beachhead.

On 12 March I conducted a conference at the 15 CCS for the purpose of discussing the malaria program with the British medical unit commanders and staff officers. This meeting was attended by Lieutenant Colonel Briggs, Lieutenant Colonel J. A. Hall, the Acting Assistant Quartermaster General (British) of VI Corps, Colonel Anderton, the ADMS of the 1st British Division, and the ADMS of the 5th British Division. The 5th British Division had just arrived on the beachhead as a replacement for the 56th British Division which was in the process of being relieved from duty on the beachhead. The OIC of the 9th Malaria Laboratory (British) had come from Naples to attend this conference. At this meeting I outlined the proposed Corps plan for controlling malaria among the troops of VI Corps. I requested the cooperation of these officers and the assurance that all British troops participate wholeheartedly in the program. Although at the time my plans were incomplete there was general agreement on the concept and principal factors that were involved.

Captain Joseph J. Bowen, Medical Corps, from the Fifth Army Medical Section arrived on the beachhead on 14 March and spent about a week in making an independent malarial survey for General Martin. On 20 March Captain Bowen furnished me with a copy of his findings. Lieutenant Justin Andrews, Sanitary Corps (Atlanta, Georgia), a malariologist on the staff of Major General M. C. Stayer, Medical Corps, the NATOUSA Surgeon, Captain Reed Christianson, Sanitary Corps (Auburn, Alabama), a malariologist assigned to the staff of the Fifth Army Surgeon, and First Lieutenant George Stocking, Sanitary Corps (Hutchinson, Minnesota) in charge of three enlisted technicians and comprising a malaria survey and control group, arrived on the beachhead on 24 March. Major Timothy Hyland, Royal

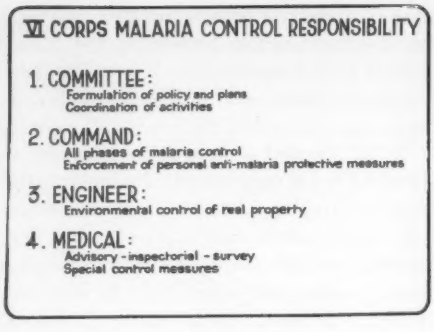


FIG. 23

Army Medical Corps also arrived about the same time and was attached for duty to the Medical Section of VI Corps as the Corps malariologist. Major Hyland was to supervise the anti-malarial activities of all British units.

With this group of well qualified experts to advise and assist me in drafting an effective anti-malaria program I immediately initiated a series of conferences. At these meetings I presented the findings of Colonel Jameson-Carr and Captain Bowen supplementing their reports with such other information I had obtained from other sources and from my own personal survey of the beachhead area. I discussed with this group the factors I considered to be essential in formulating an effective program. These included early suppressive therapy, placing the responsibility for local control of mosquito breeding areas and anti-malaria control measures on each unit commander through the use of anti-malaria control officers and anti-malaria control details. The support of the Corps Engineer was enlisted to take the responsibility for ditching and draining large areas with heavy equipment not available to the smaller units.

The final plan for anti-malaria control on the Anzio beachhead, drafted after concurrences by all who had participated in the various conferences had been obtained, provided for the organization of anti-malaria details consisting of a minimum of two enlisted men, one of whom was to be a non-commissioned officer, in every company, battery, detachment or similar unit on the beachhead. This included divisional, corps and army troops. An anti-malaria control officer was to be detailed and be responsible for effecting the program in each company, battery, detachment or similar sized unit and in each battalion, regiment and division or comparable units. Anti-malaria committees were formed in each battalion, regiment, division and comparable units composed of the anti-malaria officer, the unit surgeon and the unit engineer of supply officer. There was also a similar committee organized at Corps level composed of the Corps Engineer, Colonel William N. Thomas, Jr., Colonel Briggs, Colonel Andrews, Colonel Brewster, Major Hyland, Captain Christianson and myself. The program provided further for a school to be conducted for the training of the personnel who were to be assigned to the unit anti-malaria details and for the unit anti-malaria control officers. The school was to be attended by both British and American personnel. The instruction in this school was to be both didactic and practical and designed to give specific training in the methods which were to be employed in the prevention of mosquito breeding and the use of protective measures and clothing against the bite of the mosquito.

I considered that we had developed a well planned program and submitted it to Colonel O'Neill, the Corps G-4, for his review and submission to the Corps Commander for his approval. The plan was approved and immediate steps were taken to place it in operation. Our first effort in implementing the program was to organize the school for the training of the anti-malaria details and unit anti-malaria control officers. The 52nd Medical Battalion was able to provide the necessary conference space and equipment so that the school was held within the confines of the hospital area. The program of instruction was prepared by Colonel Andrews and the classes, each numbering from 75 to 100 students, were conducted by Captain Christianson and Lieutenant Stocking. The members

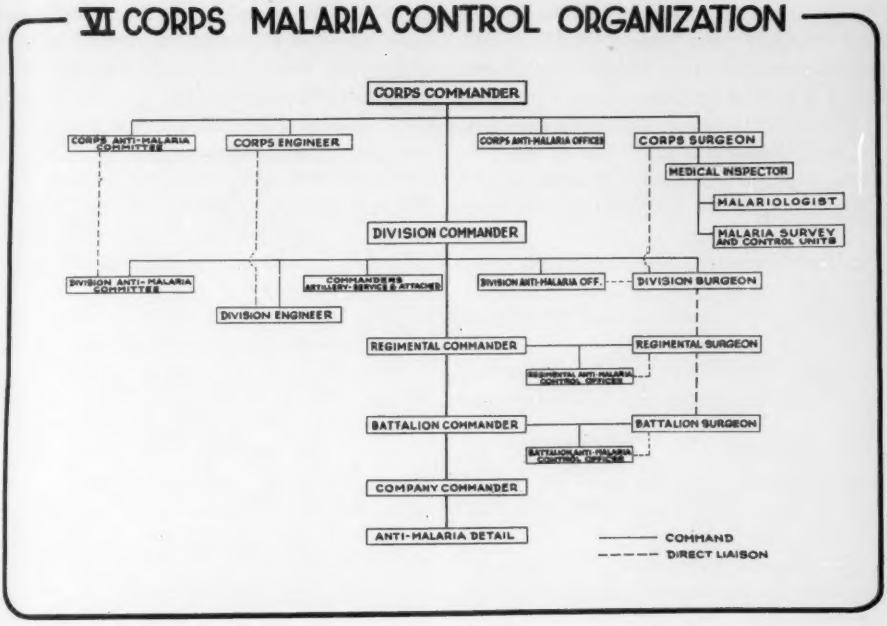


FIG. 24.

of the malaria survey and control team were utilized in demonstrating the use of equipment and the methods to be employed in detecting mosquito breeding places and the means for their elimination. The use of protective clothing, proper utilization of bed and head nets and repellants were demonstrated. The need for suppressive therapy was explained and supervisory methods to insure the use of the drugs which were to be employed were discussed. This school was highly successful in its efforts. A total of 2,011 officers and enlisted men including twenty-three officers and seventy-four other ranks from the British forces received a minimum of six hours of instruction (three periods of two hours each). Both British and American medical technicians received instruction in the use of Giemsa stain and parasitology to assist in the identification of malaria organisms and mosquitoes.

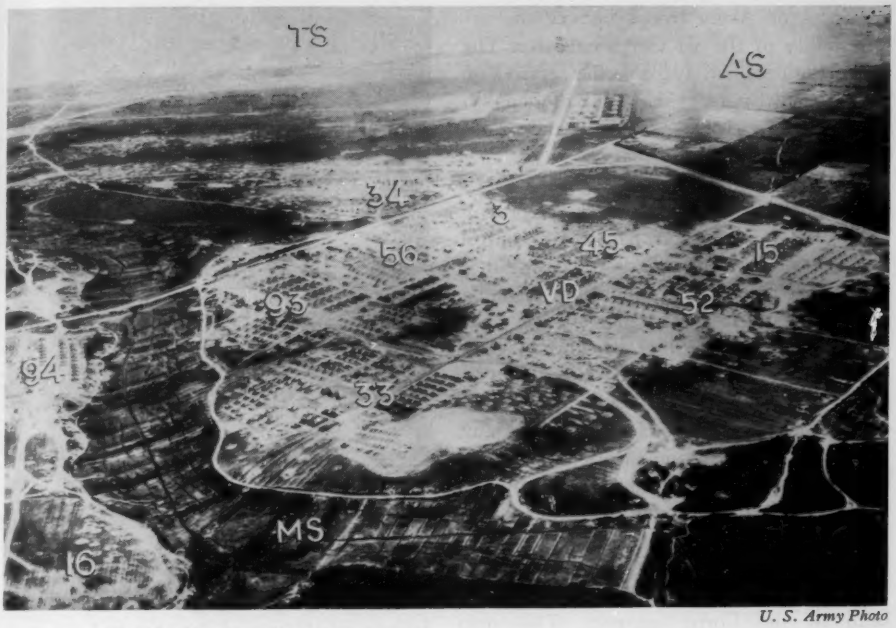
The matter of suppressive therapy involved a great amount of discussion at the conferences we had held. It was my firm belief that this preventive measure should be instituted early. NATOUSA directives called for the institution of suppressive therapy in the Mediterranean theatre on 1 May. I discussed this part of our program with General Martin and although he was of the opinion that beginning it as early as 15 March was rather early he left the decision for recommending a date for VI Corps troops up to me. My colleagues and I were of the opinion that the first of May would be too late as mosquito breeding occurred earlier than that date in this area. We felt that the sooner we had built up a blood concentration of atabrine the better our results would be.

The amount of atabrine to be administered and the supervisory methods to be employed were subjects for lengthy discussions by the Corps anti-malaria committee. All of us had had previous experiences with the use of this drug and voiced our several and varied opinions. I recalled very vividly my first experience with a malaria suppressive drug that I had in October-November, 1942. At that

time the unit I commanded, the 38th Evacuation Hospital, was aboard HMS *Nieuw Zeeland* enroute from England to North Africa as part of the Center Task Force (1st U. S. Division) in operation TORCH (invasion of North Africa). One of our pre-invasion requirements was the taking of two tablets of mepacrine (British) on two separate occasions during our two weeks voyage. The physical reactions sustained by the members of my unit (and this applied equally well to personnel of other units abroad) were so severe and incapacitating that if we had been required to debark one day earlier than we did only a part of my unit would have been able to crawl off the ship. The symptoms were chiefly acute gastro-intestinal distress accompanied by diarrhoea and a high fever. The limited toilet facilities aboard and the battle with the glazed "GR" tissue added to our discomfort. However, these were the only hazards we experienced on that first American amphibious operation in the European theatre. Several of our nurses had become acutely ill. Initially we believed that this sudden illness was due to food contamination and as the senior medical officer aboard I appointed a board of officers to investigate the matter. While this investigation was being conducted we experienced a similar episode following the second administration of mepacrine. Again in the spring of 1943 we had a repetition of this same phenomena. By that time my hospital unit was in operation at Telergma, Algeria. A directive was issued that the malaria suppressive drug, atabrine, was to be taken by all troops beginning in April. Instructions issued with this directive were to the effect that two tablets of atabrine were to be taken each Thursday after the evening meal together with large quantities of water. No alcoholic beverages were to be consumed, etc. It so happened that on the first Thursday on which we were to initiate our suppressive therapy program we also enjoyed a rarity for dinner—fresh beef steak! On that memorable occasion we concluded a most enjoyable meal, in accordance with our instructions, by taking the two little yellow tablets of atabrine followed by "copious" amounts of water. Beginning a few hours after dinner and continuing throughout the night most of the personnel were quite uncomfortable, quite a few felt miserable and several were noticeably sick. By mid-night there was not a single nurse who felt well enough to remain on duty. Fortunately the physiological effects of the drug did not last very long. We did get accustomed to this reaction which gradually lessened in its severity but the taking of atabrine remained an unpopular requirement.

Many methods were recommended as to the mode of administering atabrine. Official instructions contained in directives required the taking of two tablets of atabrine once a week. These instructions were later changed so that the requirement was to take one tablet, twice a week. Before the 1943 malaria season was over the drug was being administered by taking one tablet of atabrine each day for six consecutive days with one day intervening between courses when non of the drug was given. Some of our medical colleagues discounted the adverse physiological effects of the drug. I well remember that Colonel Perrin H. Long, Medical Corps, the Chief Medical Consultant to the Surgeon, NATOUSA, personally took large doses of atabrine to determine how much of the drug could be tolerated. Colonel Long literally took handsful of the drug. I don't know what conclusions Colonel Long eventually reached but I know that on the several occasions he visited my hospital he was possessed with a very unhealthy and unnatural golden appearance.

On 22 March a directive covering the anti-malaria program was issued by VI Corps headquarters to all units on the beachhead including Army service units. Suppressive therapy was started on 26 March. The Corps directive required that atabrine be administered initially by taking ½ tablet daily for the first seven days and then one tablet daily thereafter. There was to be no breaks in the schedule so that the routine administration of the drug could be adhered to without diffi-



U. S. Army Photo

FIG. 25. Hospital Area—Anzio Beachhead.

3—3rd Division Clearing Station.
15—15th Evacuation Hospital (400 beds). Replaced on site the 95th Evacuation Hospital, 10 Feb. 1944.
16—Area occupied by the 16th Evacuation Hospital (750 beds) on 26 May 1944.
33—33rd Field Hospital operating as the VI Corps Holding Hospital (400 beds).
34—34th Division Clearing Station.
45—45th Division Clearing Station.
52—52nd Medical Battalion.
56—56th Evacuation Hospital (750 beds) replaced on site by the 38th Evacuation Hospital, 9 April 1944.
93—93rd Evacuation Hospital (400 beds) replaced by the 11th Evacuation Hospital, 16 April 1944.
94—94th Evacuation Hospital (400 beds).
VD—VI Corps Venereal Disease Hospital (200 beds).
AS—VI Corps Air Strip.
TS—Tyrrhenian Sea.
MS—Mosquito control activities—ditching and draining.

culty. Supervision of the suppressive malaria therapy program was the responsibility of the anti-malaria control officer in each unit. To the best of my knowledge there were no reported incidences of adverse physiological effects from the drug on the beachhead. This was attributed to the taking of the drug daily and initially in small amounts that were easier tolerated. Even those who stated that they had reacted unfavorably to the drug in the past and requested quinine were content to take atabrine when informed that quinine was not available. The Corps directive also placed the responsibility for eliminating mosquito breeding places in troop areas directly on the unit occupying the site under the supervision of the unit anti-malaria control officer and the anti-malaria details. Areas within division boundaries not actually occupied by troop units became the responsibility of the division engineer and in the rear areas of the beachhead not actually occupied

by Corps or Army troops became the responsibility of the VI Corps engineer. The Corps engineer had available the services of two Italian Engineer Labor Battalions to accomplish the clearing, ditching and draining of the larger projects.

Each unit was required to submit to its next higher headquarters a weekly report in which the amount and nature of control measures performed were described together with the location of any mosquito breeding places found. As these reports were processed through the several echelons of command the respective anti-malaria control officer consolidated the reports of his subordinate units before forwarding his account to the next higher headquarters. All of these consolidated reports were received by the Corps anti-malaria committee where they were carefully reviewed. The results of the anti-malaria activities of reporting units were plotted on a large scale map of the beachhead by the Corps engineer. This map showed the weekly progress made in the clearing, ditching, draining, oiling, spraying and filling of areas together with the locations of suspected mosquito breeding places and where mosquito larvæ were actually found. The task of continuing this work was taken over by new units as older units were relieved. These reports first showed hundreds of feet of draining, ditching, etc., but as the weeks passed the master map showed many miles of this type of work that had been accomplished. Standing water areas that could not be drained or filled were treated with a larvicide. Both DDT and Paris green were used. DDT was a new chemical compound that had been made available in limited amounts.

Under the supervision of the officers and enlisted men who had been trained in the Corps anti-malaria school the troops exhibited much enthusiasm in accomplishing this work. Practically everyone on the beachhead became malaria conscious and much ingenuity was displayed in performing this essential duty. As the work of clearing and ditching of small streams progressed the

U. S. Army Photo

FIG. 26. VI Corps troops holding the forward defense line of the beachhead.

original grade stakes placed there during former Italian efforts were uncovered but the amount of control work accomplished by VI Corps troops far exceeded all that the former inhabitants of the area had obtained. In making periodic inspections it was evident that many units took exceptional pride in displaying the results of their efforts and I was amazed at their ingenuity and the thoroughness of the work done. On several occasions the Corps Commander accompanied me on these inspections and he displayed no hesitancy in tramping through the underbrush and mires encountered on the beachhead. General Truscott was vitally interested in the program and in the progress being made and showed his pleasure at the results being attained. The hospital area was given priority in having the area cleared and potential breeding places eliminated. This work was accomplished under the direct supervision of the malaria survey and control team.

All during the month of March the beachhead was rather quiet when compared to the hectic days we had experienced in February. There were no major offensive actions by either the enemy or by VI Corps. Daily artillery shelling and periodic bombing of the beachhead remained and everyday occurrence. To protect the beachhead from enemy observers on the Coli Laziali and the Lepini

mountains huge fog generators were placed in operation. One afternoon I was interested in inspecting a particular stream as a study of our master map indicated that it favored breeding areas. Captain Menkle accompanied me as we drove as near to the area as we could; that is, to the limit for vehicles during daylight, and then we took off afoot. The sky seemed overcast. As we made our way up along the banks of the stream we paid little attention to our surroundings since we were looking for probable mosquito breeding places. The banks of the stream were burrowed by the troops for their dug-outs and the troops paid no attention to us. Suddenly we were aware that the sun was shining brightly and as we looked up we could see very clearly across the fields to the Alban hills in front of us. The small villages with their white houses perched along the slopes of the Coli Laziali stood out so distinctly that I felt that I could reach out and touch Velletri. It seemed that we had walked into a new world—actually, we had walked in front of our smoke screen. We looked more closely about us to the troops who were lying in their fox-holes and found that they were manning 60 mm. mortars—we then realized that in our interest in following the course of the stream that we had advanced to our forward beachhead defense line. A few more hundreds of yards of our expedition would have taken us within the enemy front lines. Fortunately the front was quiet that day. I can't say that we beat a hasty retreat —suffice to say that we didn't tarry there very long!

It is difficult to evaluate the anti-malaria program we had effected on the beachhead. The months of June, July and August were considered to be the "malarious" months in the area but before they arrived the troops of VI Corps were no longer on the beachhead. General Truscott was successful in getting us out of our confined sector and by the time the summer months came the troops of VI Corps were either pursuing the enemy north of the Tiber river or engaged with other activities elsewhere in the theatre. I am confident that the anti-malaria program that we placed in operation on the beachhead was sound and would have been successful. Daily surveys of the area failed to discover the presence of either adult or larvæ of the Anophelene mosquitoes on the beachhead occupied by VI Corps.

25

One of the chief causes of non-battle casualties on the Anzio beachhead was trench foot of which there was a total of 2,903 cases reported. During the months of January, February and March the temperature in that area was near freezing and there was much rain. The offensive operations of the first week in February followed by the determined effort of the Germans to drive VI Corps back into the sea during the rest of the month, coupled with the nature of the terrain, were conducive to cause this type of casualty. The reclaimed, flat, open fields occupied by our forward troops had a high ground water plane. Many springs bubbled to the surface throughout the area. Fox-holes, trenches and dug-outs became filled with water, yet it was necessary for our defending troops to occupy these water holes as they provided their only means of protection against artillery and mortar shelling and safety from small arms and sniper fires. Troops occupying these holes were unable to move out of them during daylight hours, not even to answer the calls of nature. Troops were continually water soaked and unable to stretch or exercise their legs for long periods of time. The lack of reserves on the beachhead precluded their being relieved for rest or recuperation. It was a most miserable situation but our ability to remain on the beachhead depended entirely on the staying power and stamina of these brave and courageous soldiers who not only withstood all of the vicious and relentless enemy assaults but also combatted the most adverse conditions of winter weather. Their duty was to stay and hold—at all costs—and they did.

The matter of the high incidence of trench

foot was of grave concern to the Corps and unit commanders and to their surgeons. I held several conferences to discuss this subject with my American and British associates. We considered that certainly some measures could be suggested or devised whereby this serious and disabling injury to a soldier's most important means of locomotion could be prevented. Instructions were issued to enforce rigid foot hygiene, to exercise the feet and legs frequently, to avoid restrictive clothing about the lower limbs and to make every attempt possible to keep the feet dry. Dry socks were sent forward with the daily ration. Some of the troops used brushless shaving cream as a protective ointment with some success.

Conditions existed on the beachhead that restricted the carrying out of many of these suggested preventive measures. In many instances, as already described in this narrative, our troops were isolated—cut off from their parent units—and forced to remain in their miserable positions for several days at a time. On numerous occasions water, food and ammunition could not be carried forward to these troops who held their positions until their ammunition was expended or they reached the point of utter physical exhaustion. Some held on until captured by the enemy. These troops of VI Corps stayed and persevered and succeeded in holding the final defense line of the beachhead. They did not yield nor did they give up the fight! Those who were not wounded suffered other disabilities of trench foot and exhaustion. Not all of the heroes of the struggle on the Anzio beachhead are wearers of the Purple Heart.

It should well be remembered that the troops engaged in World War II were equipped with the ordinary high-topped GI boot and wore heavy or cushion soled woolen socks. Those who were fortunate were also equipped with the common four buckle arctics. None of these were water proof. The elaborate foot gear that is available to our present soldier is the result of research and the experiences of soldiers such as those who held the Anzio beachhead. As a result there were relatively few cases of trench foot among disciplined troops during the Korean action.

26

On the southern Fifth Army front several clearing stations of Army medical battalions were organized to operate as Neuro-Psychiatric hospitals. These medical treatment facilities were located in the Army rear area and were staffed with psychiatrists. Battle fatigue, combat and mental exhaustion cases were evacuated to these hospitals for treatment. On the beachhead the establishment of such a type hospital was considered but not deemed feasible. The hospital area itself was not popular with the combat soldier as all were well acquainted with the bombings and shellings to which it was subjected. There was no end to the constant shelling and bombing of the whole beachhead. In the treatment of these cases it was necessary to evacuate them away from the noise and turmoil of battle. Mild cases were treated in the divisional clearing stations by the division psychiatrist, others were sent to the Army medical installations for evacuation from the beachhead. Lieutenant Colonel Frank Drake, Medical Corps, Surgeon of the 3rd Division, had appreciable success in treating cases on the beachhead, thus maintaining the strength of the division. Neuro-psychiatric cases approximated the same number as that of trench foot and most of these had to be evacuated. However, those who were disabled by self inflicted wounds and who were charged with misbehavior before the enemy were not evacuated.

27

One evening as I entered our officers' mess I was agreeably surprised to see Ernie Pyle, the universally known war correspondent, sitting alone at one of the tables. Although he was wearing the regulation green brassard with the white "C" on his left arm I doubted that anyone in the mess recognized him as he was a quiet and unassuming individual. I immediately went over and greeted him as I had become well acquainted with Ernie during our early days together in North Africa. There he spent several days with me

and wrote an interesting account of the hospital I then commanded, the 38th ("The Charlotte") Evacuation hospital,* which was operating at St. Cloud, near Oran, Algeria. Ernie had just arrived on the Anzio beachhead and had come to continue his recording of the GI soldier as he had done in North Africa, Tunisia, Sicily and Italy.

Ernie Pyle was more fortunate at Anzio than at Ie Jima in the Pacific where he had gone in 1945 to write his story of the American soldier in that theatre. I certainly was greatly grieved when I learned that a Japanese machine-gun bullet had snuffed out the life of this congenial and well-liked correspondent. One morning while at Anzio Ernie had left his billet which was located in one of the battered buildings in Nettuno and which he shared with several other correspondents. While shaving, one of the shells of the regular morning serenade came in and struck the building. When Ernie returned to his bed he found that it had disappeared, covered by the wreckage and debris of what had been his roof and shelter during the night.

As all readers of American newspapers knew, Ernie Pyle did not spend much of his time hobnobbing with the brass around any large headquarters. He shared the many discomforts of the soldiers, living with them and exposing himself to their dangers, as he gathered his story material. This manner of living in the field had its own adverse effects on this frail individual. Many of the conditions and disparagements that irked the soldier were brought to the attention of higher commanders and to the public through his human interest articles. Ernie was instrumental, through his reporting columns, in having the state of the soldier greatly improved. All persons in the military service owe this fearless correspondent a great debt of gratitude.

One morning during the latter part of March Ernie came to my headquarters and requested me to arrange passage for him on a hospital carrier returning patients to Naples. He was leaving the Anzio beachhead for England and desired an opportunity to write about this particular phase of our chain of evacuation. The trip back to Naples was easily arranged through Major Ralph Camardella, Medical Corps, the Fifth Army evacuation officer present on the beachhead. Major Camardella had been on duty in General Martin's office and had been sent up to the beachhead to replace Captain Haverty who had been killed.

Ernie Pyle's departure for England gave rise to much speculation and gave us some intimation that military operations were coming to a head in that part of the European theatre. Ernie always seemed to be present when some big operation was in progress.

Before Ernie Pyle left the Anzio beachhead he wrote a letter to my children back home in which he informed them that he had seen their Daddy again and that all was going well on the beachhead. The letter addressed individually to our five sons and daughter is one of their most prized possessions.

28

After the repulse of the German attack on the 3rd Division which ended on 4 March the character of the fighting at Anzio underwent a radical change. Both VI Corps and the German Fourteenth Army limited their operations to active defense of the positions they held after the German offensive. Both forces marked time awaiting the renewal of the Allied offensive on the southern front. Both forces engaged in aggressive patrolling. The Allied Air Force and VI Corps artillery constantly pounded enemy positions; the enemy retaliated with medium and long range artillery and air raids directed against Allied shipping and supply dumps. During this lull in the ground combat, the VI Corps built up its forces and accumulated a huge supply reserve in preparation for the great offensive that was planned for the future.

The 5th British Division arrived early in March and relieved the 56th British Division

* Ernie Pyle, *Here Is Your War*, "The Medical Front," Chapter 6.

Italy - March 21, 1944

Dear Buddy, Frankie, Bobby, Jimmy, Dickie and Kathie —

Your Father and I are good friends, and he thought maybe you might like to have a note from me. We are together here on the Anzio Beachhead now — the first time I had seen him, I think, in more than a year. I first knew him in our very first days in Africa in 1942.

We eat at the same mess here, so if you read the beachhead columns you will know about how things are with him. He looks fine and seems to enjoy it here. I too have, found it a very exhilirating place.

This is the first day of Spring. The weather actually has been spring-like the last few days, but is blowing up raw and chill tonight. But you can sense spring in the air, and I'm sure that from now on it will be lovely.

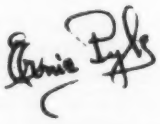
I will cheat myself out of this nice weather, however, as I'm leaving for England in a few days, and thus will add about six weeks to my winter. But I'll enjoy returning to England, for I like that country very much, and have many friends there. It has been almost a year and a half since I was there.

The other side of this page is a calendar drawn by a sergeant in the Engineers who is a very good artist. The men in his office write home on the opposite side of them, just as I'm doing, thus killing two birds with one stone. They gave me one so I'm using it.

We have occasional shellings and bombings here, but we manage to survive. There are very few Italians left in this part; there is nothing at all to do, so we just work day and night.

Your father showed me your pictures, and you are certainly quite a family. I'll bet you're mighty anxious to see your Daddy. Well, a lot of us are mighty anxious to get home too. We hope we can before another year passes.

Guess that's all. Be good to yourselves. And lots of luck.



Ernie Pyle

FIG. 27

which departed from the beachhead. British Commandos, American paratroopers and Rangers also left the beachhead and went to England where they engaged in preparations for the invasion of Normandy. These losses were offset by the arrival of the 34th Division, another veteran unit which had served in Algeria, Tunisia and Italy. The 34th Division came from the Fifth Army southern front and upon its arrival on 28 March relieved the 3rd Division. Accompanying the 34th Division to the beachhead was the 94th Semi-mobile (400 bed) Evacuation Hospital, commanded by Colonel Frank Pierce, Medical Corps, and the 402nd Collecting Company. These two medical in-

U. S. Army Photo

FIG. 28. 94th Evacuation Hospital and 402nd Collecting Company (Central area). Main hospital area in background (upper left).

stallations set up for operations in the area immediately east of the hospital area. A deep ditch separated the 94th Evacuation Hospital from the 93rd Evacuation Hospital.

Also during the month of March there were 14,000 replacements that had arrived and by the end of the month VI Corps numbered some 90,000 troops, the equivalent of six divisions. For the first time the troop strength of VI Corps was greater than that of the opposing German Fourteenth Army. Plans were being rapidly developed by VI Corps for a large scale offensive operation against the enemy but in the meantime operations were limited to patrolling and local attacks designed to keep the enemy on the defensive.

When the 34th Division relieved the 3rd Division in the line, the 3rd Medical Battalion and the 3rd Divisional Clearing Station remained in their original locations within the hospital area. The 109th Medical Battalion and the 34th Division Clearing Station set up for operation in the area on the south side of the coastal road opposite the hospital area. The 109th Medical Battalion under the command of Lieutenant Colonel Edward W. Paulus, Medical Corps, was a seasoned unit and readily assumed its responsibility.

29

Enemy action by long range artillery fire and air raids directed against supply dumps and other rear area establishments continued to wreak havoc in the hospital area. British medical units, although quite distant from the hospital area, were not immune and suffered in a similar manner. Not only the British hospitals but other British medical installations were subjected to both enemy bombing and shelling. During an enemy air raid that occurred about 0715 hours on the morning of 17 March one of the enemy planes had traversed the beachhead from east to west and apparently had not found a target. As the plane was about to head out to sea the bomb load was dropped in a determined effort to deposit it on the beachhead. This load of anti-personnel bombs fell in the area occupied by the 141st Field Ambulance, 5th British Division, which was operating in some buildings and tentage between the coast road and the sea on the extreme left flank of the Corps. One of the patient wards received three direct hits. Two officers of the Royal Army Medical Corps and twelve patients were killed; ten enlisted ranks on duty and 65 patients were wounded. About mid-morning Colonel Briggs and I paid a visit to this unit which had been badly shaken up. I reported the incident to General Truscott upon my return and that afternoon accompanied him on a visit to this unit and to other British medical installations. The Corps Commander took a personal interest in the activities of all beachhead medical units.

The 15th Evacuation Hospital was heavily shelled at 0400 hours on 22 March when approximately forty 88 mm artillery shells fell into that part of the hospital area. These shells landed in rapid succession; about one every two seconds. We believed that an enemy tank riding one of the roads parallel to the coastal road was responsible for this attack. Most of the shells landed in the quarters area occupied by the officers; however, none of the personnel were injured by this shelling since all had daily improved their dugouts within their tents during the six weeks they had been on the beachhead and all were sleeping well below ground level. In addition they had sandbagged their

tents. There is no doubt that this protection saved the lives of many of these officers and nurses. Later in the morning when I visited this hospital I was able to witness the havoc that had been created. Some of the shells had struck the sand bag revetments. I noted particularly the Chief Nurse's tent (Captain Maurietta F. Shoemaker, Army Nurse Corps Prairie Grove, Arkansas) in which she had been asleep on a cot, well dug in, when the attack occurred. The canvas of her tent had been torn into shreds. Captain Shoemaker had received an issue of new combat clothing the day before and had placed it in her barracks bag which had been suspended from an improvised clothing rack in her tent. This clothing was completely chewed up by the razor sharp and jagged steel shell fragments that had passed through the bag. The heel of one of her combat boots had been knocked off. It looked as though a nest of rats had spent the winter in that bag. Captain Shoemaker was not injured by the shell which ruined her tent and destroyed her clothing but she was quite shaken up by her harrowing experience and narrow escape. Other hospital personnel had similar experiences.

A few of the shells landed in the hospital proper. Colonel Leaver showed me where one shell had struck an M-1 stove in one of the wards. The effect of the projectile striking the stove was to create secondary missiles which killed two patients in that ward and three more patients in an adjoining ward. As a result of this early morning shelling there were seven patients killed and many were wounded. One of the enlisted men of the adjoining 52nd Medical Battalion was also wounded during this enemy action.

It has been previously mentioned in this narrative that no part of the beachhead was immune from the enemy bombings and shellings and that the rear areas especially contained lucrative targets for enemy air action and the fires of their heavy artillery. Incidents of disasters were legion. I will mention only a few of which I had personal knowledge.

Although the VI Corps Headquarters had moved underground into the wine caves beneath the town of Nettuno early in February, these subterranean passages, thirty feet below the surface of the ground, did not furnish complete protection from enemy action. At about 0830 hours one morning a large caliber artillery shell landed and exploded in the officers' latrine located in a courtyard near one of the entrances to the caves. Ordinarily this necessary facility was crowded at this time of the day but fortunately on this occasion the place was empty when the shell landed. The latrine was completely covered with tons of bricks and debris from adjacent buildings destroyed by the explosion of the projectile. The military policemen stationed at the head of the stairs were blown down the flight of stone steps. Except for minor bruises and a thorough shaking they suffered no serious injuries. The pressure wave that passed through the underground passages immediately following the explosion tore off all the maps and the charts attached to the walls and swept every desk and table clean. On another occasion an artillery shell landed at about 0400 hours one morning in a small alley way in Nettuno. This projectile fell into a sewer man-hole and followed the sewer line to a depth of about ten feet before it exploded. The explosion blew both ways creating a hole about 15 feet in diameter and connected the alley way with the Ordnance Section of Corps Headquarters in one of the wine caves. It so happened that this explosion occurred over that portion of a passageway usually occupied by the Ordnance section charge of quarters. For some unknown whim this noncommissioned officer had moved his cot from the area the night before—a whim which undoubtedly saved his life. One evening the Deputy Corps Surgeon, Colonel Brewster, was playing "hearts" with some fellow officers in the passage occupied by the Quartermaster section. In rear of the chair occupied by Colonel Brewster there was a flight of stairs leading up to the street but the exit had been barricaded with timbers and sand bags. A shell dropped and exploded beyond

this barricade and the force of its explosion blew the materials of the obstruction down the stairway onto the participants of the card game. Colonel Brewster was slightly wounded.

Two military policemen, who apparently were victims of claustrophobia and weary of living and sleeping like moles in the subterranean passages, decided to take a chance and sought a billet on the second floor of one of the buildings still standing in the public square of Nettuno. That same night a shell landed and exploded in the building and killed both soldiers.

As the weather became more favorable it was our habit to take a brief walk along the sea wall after lunch so as to absorb some sunshine in an effort to erase the prison pallor we had acquired. One day Colonel Larry B. Skinner, the Corps Quartermaster, and I, while walking together, heard a shell come in and drop about 150 yards away. We immediately ran over to the area to see if anyone had been injured. The trajectory of the shell was such that it landed at street level, penetrated the outside wall of one of the buildings, passed through the first floor into the cellar. In the basement the American Red Cross personnel had been operating a doughnut making machine. The projectile had passed completely through the machine splattering batter and scattering doughnuts all over the room. The fuse of the shell had broken off and was imbedded in the ceiling. The projectile fortunately did not explode. There had been five attendants in the room but only two were slightly wounded from the secondary missiles produced when the machine was destroyed. Except for the seriousness of the situation it was really a sight to behold.

Colonel Skinner described to me an incident which he had witnessed. One afternoon while riding through the town of Anzio in his jeep some enemy planes suddenly appeared and began strafing the streets. He and his driver jumped from their vehicle and took shelter in a gutter. Others in the vicinity did the same. When the planes had gone a colored soldier called to Colonel Skinner for help stating that his buddy had been wounded. When the raid occurred these two soldiers scrambled for the shelter of the ditch, one landing on top of the other. When they got up the soldier who had been on top of the other noticed that his companion was covered with blood and assumed that he had been hit. This soldier was examined but no wound could be found. Then the soldier who had been on top was discovered to have been hit in the buttocks by a machine-gun bullet. He had bled profusely over his companion. He was not aware that it had been he who had been wounded.

Enemy shells on separate occasions struck the Quartermaster laundry and the bakery. Shells landed in the American cemetery and disinterred the dead buried there. Shells destroyed the British NAAFI (Post Exchange) and burned up the supply of cigarettes. This incident caused the NAAFI to dispose of its entire supply of spirits and ale. The three British personnel on duty in the Corps Medical section brought back twenty pints of Canadian ale issued to each of them at one time—a six weeks' ration—which was enjoyed by all in the section.

The VI Corps Post Office, APO 306, was located in the railroad station in Anzio. This was a substantial and rather attractive building. A 170 mm artillery shell landed in the center of this building and embedded itself in the walls but failed to explode—much to the joy of everyone on the beachhead. The APO was our only contact with home and the outside world. The destruction of those priceless letters from our loved ones would have been a real catastrophe.

The Germans had collected every piece of artillery they could find, both obsolete and modern, to use against the defenders of the Anzio beachhead. We were all grateful for the appreciable number of duds that fell into the area.

30

On the afternoon of 24 March a meeting was held in my headquarters which was

FIG. 29. Digging-in and revetment of a double ward completed and ready for erection of canvas. Note arrangement of tent poles.

FIG. 30. A single ward tent dug in and revetted. Ready for raising of the canvas.

attended by the VI Corps G-4, Colonel O'Neill,* the Corps Engineer, Colonel Thomas, and the Commanding Officers of the several hospitals operating on the beachhead. The purpose of this conference was to discuss the current situation and attempt to devise some means of affording the hospitals greater protection from enemy action. The possibility of removing the hospitals to a safer location was considered. I have already recorded in this narrative that a complete reconnaissance of the beachhead area failed to reveal a more suitable site or one that would give more natural protection. Since the reconnaissance had been made the area of the beachhead had shrunk from the bitter enemy attacks suffered during February. The present location of the hospitals was well marked and well known to the enemy. "Axis Sally" remarked in her daily radio broadcasts that she was curious as to what all was going on under the hundreds of tents in the hospital area.

It was generally agreed by all the conferees that it was a matter of digging in which would obtain the greatest possible protection. Consideration was also given to the construction of overhead cover for the operating rooms as a protection from falling flak. Flak fell like rain during an enemy air raid and the falling steel fragments had the same effect as exploding shells and caused some casualties. Personnel and patients with assistance could generally seek some kind of shelter when the "red alert" of an impending air raid was received but the officers, nurses and technicians busily engaged in the operating sections of the hospitals had to remain at their operating tables and places of duty. It was very necessary to protect this group of personnel engaged in saving the lives of those who had already been wounded.

Colonel Thomas stated that he could put a large force of engineer troops at work in the hospital area since these troops had been relieved of their combat mission. All available engineer supplies on the beachhead were placed at the disposal of the Corps Engineer by General Truscott to accomplish this task.

FIG. 31. Digging-in and building a flak roof for an operating room.

* At the time of publication of this article Colonel O'Neill is a Major General and Commanding General of USAREUR COM Z.

On the day following our conference the project of digging-in the hospitals began with approximately 1,000 troops from the 36th and 39th Engineer Regiments. These soldiers were very happy to have this new duty assignment after their weeks of harrowing experiences suffered while protecting the Corps left flank along the Moletta River. These soldiers expressed their relief by attacking this undertaking with great vigor and zeal.

By the end of March the cold and miserable rains of winter had decreased and the water table plane had receded a great deal. It was this high ground water level that had precluded any extensive digging-in earlier. Foxholes and dugouts that had initially been excavated to give shelter from enemy bombing and shelling had to have the water bailed out daily. To effect adequate drainage and avoid flooding of the wards the engineers dug a long deep trench across the entire hospital area using bull-dozers to accomplish this heavy construction. Patients were transferred from ward to ward throughout each hospital while each ward was excavated to a depth of three and a half to four feet. The walls were then lined with wire mesh and burlap which was retained by steel stakes normally used in stringing barbed wire. The ground was firmly packed against this revetment forming a parapet completely around the ward. The entrances to each ward were firmly sandbagged. Digging in the wards in this manner posed a problem in erecting the heavy tentage as the center poles were too short. This problem was readily solved by placing two of the regular center poles together in the form of an inverted "V", the ends of the poles resting on the floor of the ward and against the revetted sides with the apex of the inverted "V" supporting a third and shorter pole to which the tent rings were attached. This arrangement of the tent poles served a useful purpose in that there were no longer any center poles and the aisleways became free passages. This replacement of the tent poles improved the wards considerably since it gave more usable ward space and facilitated the carrying of litters and transporting food carts through the wards. The skirts of the tents covered the parapets and were weighted down by sand bags making the wards light-tight as well as giving protection from the elements.

FIG. 33. Revetted passageway between operating pavilion and surgical ward. 14th Casualty Clearing Station.

FIG. 32. The finished product. All tents have been dug in and revetted.

The tents housing the operating activities were dug in much the same as were the wards except that the walls were six feet deep. A heavy roof of two inch thick planking was constructed and covered by the canvas of the tent. This type of construction eliminated the necessity for the use of tent poles to

support the tent and provided adequate headroom for the operating personnel.

This project of revetting and sand-bagging was performed with great enthusiasm by the Engineer troops. The combat soldier showed great respect for the medicos who stuck it out and endured the hardships within the limited confines of the hospital area. In other combat areas the front line soldiers seldom came in contact with the supporting medical units unless they became patients themselves in the hospitals or visited their comrades who were patients. On the Anzio beachhead all of the combat troops became familiar with the hardships and dangers to which the medical personnel were subjected. Troops passing the hospital area, replacements, truck drivers and messengers, all could see that the officers, nurses and enlisted technicians were sharing the same fortunes on the beachhead as they were—only that the medicos had limited freedom of movement.

The project of revetting and sand-bagging was accomplished in all of the hospitals, both American and British, but the work was done by American Engineer troops. The tents housing personnel were also well dug in and the walls sand-bagged. All of this work was accomplished in about one week and the Engineers received the grateful thanks of both hospital personnel and patients. Although the roofs of the wards were still only canvas there was a sense of security obtained from the revetted walls.

31

The superb effort performed by the Engineer troops in digging-in the hospitals did not provide protection against direct hits of either shells or bombs. Two of the hospitals suffered one of their worst disasters while the Engineers were busily engaged in constructing the revetments. At about 2200 hours on 29 March, during an enemy air raid, six incendiary bombs fell in a straight line laid across the hospital area. Three bombs landed in the area occupied by the 93rd Evacuation hospital and three in that tenanted by the 56th Evacuation hospital. Casualties were many and much damage was done to the heavy tentage and a great deal of essential equipment was destroyed.

In the 56th Evacuation Hospital there were four patients killled and nineteen wounded. Three officers, a nurse and fourteen enlisted technicians of the hospital complement were wounded. Private Nick Gergulis, one of the enlisted men of the hospital medical detachment who was wounded during this raid, died of his wounds on 1 April. Three pyramidal and three small wall tents housing personnel of the hospital were destroyed. In all, 42 tents had to be replaced.

One of the bombs which fell in the area of the 93rd Evacuation Hospital struck the neuro-surgical ward. Several fires were started by this bomb which added to the damage and confusion created by the bombing. Hospital personnel were confronted by the added tasks of extinguishing the fires, removing and treating the freshly wounded and calming the panic-stricken patients. There were three patients killed and ninteen wounded. Private Joe R. Perez, a wardmaster on duty in a ward where one of the bombs landed and Private First Class John Ramsey, a litter bearer, were the only members of the hospital personnel who were killed. Fifteen officers and enlisted men were wounded; these were: Major Howard B. Shorbe, Captain Frank D. Hoffman, Captain Julius A. Gurvey, Captain, Clarence R. Brott, Technicians Fourth Class Walter Her-

FIG. 34. Results of enemy bombing of 93rd Evacuation Hospital—29 March 1944.

man, George A. Olsen and William O. Edwards, Corporal Aldo A. Colayeri, Technician Fifth Class Chester G. Hochrein, Privates First Class Herman L. Classen, Jr., Martin Schatzer and Privates Wilmer B. Hass, Arnold Hyvonen, Harold C. Malek and Clarence W. Mowrer.

There were numerous acts of heroism displayed by hospital personnel during the time of this disastrous attack. These individuals were given appropriate recognition by the Army Commander in the form of personal awards and unit commendations.

32

The frequent bombings and shellings, to which the hospital area was subjected, gradually wore down the resistance and morale of the hospital personnel. Except for the patients treated in the VI Corps Holding hospital, where a holding policy of 14 days was in effect, patients were retained in a hospital for only a sufficient length of time to receive definitive treatment and then were either returned to duty if physically fit or were evacuated from the beachhead to continue their treatment in the Naples area or in North Africa. Even so, many patients went "AWOL" from the hospitals on the beachhead to rejoin their units—they claimed that the hospital area was an "unhealthy" place for a combat soldier and that they felt more secure in their own foxholes. The hospital personnel had no such choice. Officers, nurses, and enlisted technicians remained on duty within the restricted confines of their immediate area and were on duty twenty-four hours every day of their stay on the beachhead. They were forced to spend their resting hours in cramped quarters seeking the protection of their foxholes or dugouts while getting their necessary sleep. These officers, nurses and enlisted men were gradually reaching the point of both mental and physical exhaustion as the result of their hazardous situation and arduous duties. There was practically no opportunity for relaxation or recreation. The enlisted men engaged in games of baseball curtailing their activities and seeking shelter each time the "red alert" signal of an impending air raid was given. Even these athletic games had to be abandoned when it was learned that the enemy entertained the belief that the hospital area was also being used as a rest center for combat troops. All personnel were voluntarily restricted to their immediate area—there was no other place on the beachhead to go to that offered more safety. General Truscott desiring to allay the fears and apprehensions of the nurses formed small groups of them and had them escorted about the beachhead by officers of his staff. These groups of nurses visited the defenses of the beachhead and actually viewed the gun positions of the heavy caliber Corps artillery. Seeing the resources available to VI Corps was reassuring and gave them tangible evidence that the corps had the means for staying on the beachhead.

"Axis Sally" in her daily radio propaganda broadcasts attempted to describe what was transpiring on the beachhead, especially in the hospital area. We all listened to her programs for, discounting the propaganda, she offered much entertainment by playing late recordings of familiar American bands and singers. The beachhead was also showered by propaganda leaflets one of which described the beachhead as being a "death's head." I do not believe that any of this German effort was effective on the beachhead. The condition that did affect our troops was the necessity to live in cold, wet and dark dugouts—a situation not conducive to the American way of life. It is my opinion that it was these adverse conditions that instead of giving cause for discouragement actually gave the Allied soldiers their greater determination to fight and win—to get it over with—so that they could return home.

The loss of personnel, friends and associates; the daily experiences of imminent danger; the continuous presence of the wounded and the dying; the long, weary hours of duty; the lack of recreation and adequate rest: all combined to wear down the resistance of the stoutest officer, nurse

and enlisted man. In my daily visits to the various medical units I noticed an increasing loss of efficiency, a lack of interest in the daily activities, and that the usual cheerful spirit and feeling of physical well being of the personnel were diminishing. The personnel had haggard and weary expressions on their faces or had no expression at all; they had become listless—there was no laughter—no kidding—no griping about their plight—they were just "sweating it out"! These observations were particularly noticeable to me when I joined a hospital group for an occasional meal. I observed the personnel as they went through the chow line, taking little food and sitting down and eating it or toying with it without engaging in conversation. Such conduct was not normal.

Late in March, Major General Hartgill, Royal Army Medical Corps, a New Zealander, visited on the beachhead. General Hartgill replaced Major General Ernest Cowell, Royal Army Medical Corps, the Director of Medical Services (DMS) of the Allied Forces in the Mediterranean Theatre of Operations. (Major General Cowell, KBE, CB, DSO, paid a brief visit to the beachhead in February before he returned to England and retired from active duty. He was awarded the Legion of Merit by General Dwight D. Eisenhower and was knighted by the King of England.) I had the opportunity to accompany General Hartgill on his visits to both the British and American medical units. Among other subjects we discussed was the need for the relief of some of our hospitals. At my earliest opportunity I recommended to General Martin that the personnel of both the 56th and the 93rd Evacuation hospitals should be relieved from duty on the beachhead. I had not discussed this matter with the respective unit commanders as I was fully aware from my daily associations with them all of the hospital personnel were ready and willing to continue on duty and to "stick it out." It was my opinion that they had already done more than their full measure of duty and that they had earned and should be given a respite and an opportunity for a period of rest and recuperation away from the dangers and difficulties on the Anzio beachhead.

Arrangements were speedily made by the Fifth Army Surgeon to effect the relief of both the 56th and the 93rd Evacuation Hospitals. These two units had been in continuous operation since the first days of the invasion and both units had suffered many casualties from the shelling and bombing of their hospitals.

On Easter morning, 9 April, I had the pleasure of welcoming Colonel George T. Wood, Medical Corps (High Point, North Carolina), the Commanding Officer of the 38th Evacuation Hospital, and the officers, nurses and enlisted men of this unit who had arrived to replace the personnel of the 56th Evacuation Hospital. (It was good to welcome my old friends of the "Charlotte Evacuation Hospital," a name given to the unit earlier by Ernie Pyle since he could not identify the hospital by its official numerical designation. I knew all of the older members of the unit having been the hospital commander from 15 October 1942 until 3 August 1943. I had taken command of this hospital at Taunton (Norton Manor) Somerset, England, eight days before we embarked on HMS "NIEUW ZEELAND" for participation in the invasion of North Africa. At that time we were a part of the Center Task Force in operation "TORCH" and on D Day, 8 November 1942, we arrived in the Port of Arzeu along with the Rangers and 18th Infantry (1st Division) whose mission was to seize the port of Oran. The 1st Division defeated the French troops in a short but bitterly fought battle at St. Cloud on 10 November 1942 and on the following day I selected a site for the hospital about three kilometers south of the town where we established the first field hospital in the European Theatre of Operations. During the succeeding months as the war moved eastward and into Tunisia, culminating in the defeat and capture of Rommel's Afrika Korps

in the Cap Bon Peninsula, the 38th Evacuation Hospital followed in support of II U. S. Corps and operated hospitals at Telergma, Algeria and at Beja and Tunis in Tunisia. It was while we were operating our hospital in Tunis that I relinquished command of the unit when I was initially assigned as surgeon of VI Corps. The 38th Evacuation Hospital arrived in Italy shortly after the invasion of the mainland and had been in continuous operation. It was a well trained unit, had an exceptionally well qualified professional staff and had gained more experience than any other hospital in the theatre. It had already received recognition for its efficiency in the field. This unit was a fine companionable addition to the medical service on the beachhead.

The 38th Evacuation Hospital had been in operation at Nocelleto on the Fifth Army southern front and had left all of its equipment on site which was later taken over by the 56th Evacuation Hospital and the operation of the hospital continued. The 38th Evacuation Hospital complement brought only their personal effects to the beachhead with them.

When the time came to depart I noticed no reluctance on the part of the personnel of the 56th Evacuation Hospital in being relieved of their duties on the beachhead. Within a matter of only a few hours after the arrival of the relieving hospital the 56th had turned over their equipment and responsibilities to the 38th and were aboard an LST headed back to Naples. It was evident that this change was welcome by the appearance of new expressions on their faces—the look of relief and of anticipation—as they contemplated their first night, free from the danger that had precluded their rest and comfort for the previous ten weeks.

A week after the departure of the 56th Evacuation Hospital, on 16 April, the 11th Evacuation Hospital, a 400-bed semi-mobile unit, in command of Lieutenant Colonel John H. Tabor, Medical Corps, arrived on the beachhead to relieve the 93rd Evacuation Hospital. An arrangement similar to that effected between the 56th and the 38th Evacuation Hospitals was made. The 93rd Evacuation Hospital returned to the southern front of the Fifth Army and took over the hospital installation at Casanova which had been operated by the 11th Evacuation Hospital.

No effort was made to effect the relief of the 52nd Medical Battalion or the 33rd Field Hospital although both of these units had arrived on the beachhead on D Day. Plans were being made for early offensive action and as these two units were organic elements of the VI Corps medical service it was considered advisable to retain them on the beachhead.

The British Casualty Clearing Stations were also rotated. The 14th CCS replaced the 2nd CCS and the 21st CCS relieved the 15th CCS. The 8th CCS arrived on the beachhead in April and went into operation in the vicinity of the 14th CCS.

(To be continued)

DON'T TAKE A CHANCE . . . TAKE YOUR POLIO SHOTS!

EDITORIALS

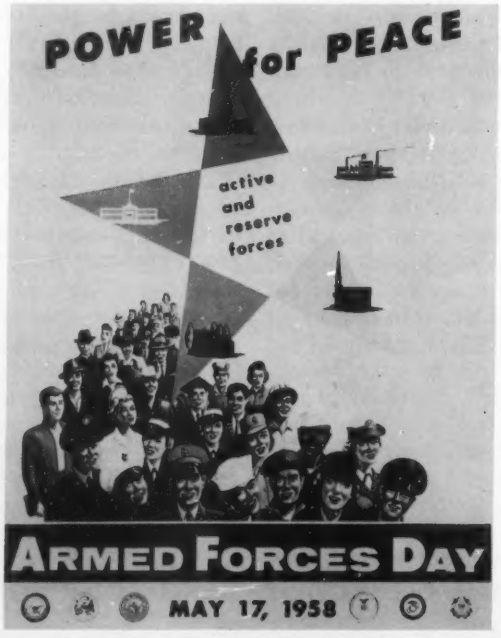
Power for Peace

BY PROCLAMATION of the President of the United States the third Saturday of each May will be observed as Armed Forces Day. This year the day is May 17. However, during the entire week, May 10-18, there will be featured at military installations some special displays pertaining to the defense organization of our government.

You are paying for this; see what you are getting. The complex machine known as our Armed Forces requires several million persons, specialists of many kinds, and innumerable machines to accomplish its mission. The Armed Forces must be considered as a coordinated organization working for the welfare of the United States of America and the free people of the world.

Not everything in the Armed Forces is aimed at destruction. You will see many items which are used every day by other than the Armed Forces. We might say this is a World Fair without any admission charge.

KNOW WHAT YOUR MILITARY PEOPLE ARE DOING. NATIONAL DEFENSE IS EVERYONE'S BUSINESS.



"To be prepared for war is one of the most effectual means of preserving peace."—GEORGE WASHINGTON.

Around the World

(Ser. II, No. 21)

By
CLAUDIUS F. MAYER, M.D.

URUNDI and Ruanda, though in close association with the *Belgian Congo,* are independent kingdoms, each governed by a native "mwami" who is assisted by a Belgian commissioner. This part of Africa has been known to the western world since a reporter of the *New York Herald,* called John Rowlands *alias* Henry Morton Stanley, was commissioned to find Livingstone (1869-71). The further development and civilization of the area is a credit to Belgium. A Traveller's Guide, which was recently issued by the Tourist Bureau for Belgian Congo, reveals many interesting facts about this progressive area of Africa. The Belgian Congo has about 900,000 square miles, while *Ruanda-Urundi* at the East is about 20,000 square miles. Topographically, the terrain of the Congo has a huge depression in its center, in the form of a basin, which is entirely covered by a very dense marshy and humid forest. It is surrounded by the Congo-Nile Divide in the North, a range of mountains ("Backbone of Africa") in the East, plateaus in the South, and a chain of mountains in the West. The eastern mountainous area also forms the relief of Ruanda-Urundi, with a number of lakes (Tanganyika, Kivu, Albert, etc.) and some eight, mostly extinct volcanoes.

The *native groups* found here are: 1) Negrilloes or pygmies, 2) Negroes who are Bantu, Sudanese, and Nilotic, and 3) Hamites ("mutusi" or "watusi"), the ruling class in Ruanda-Urundi. There are also "Arabized" or Bangwana groups. Their *staple diet* is principally vegetable or farinaceous. In the forest, manioc and bananas are the basic foods. Food is abundant, and it need not be stored. The dried roots of the manioc are ground to powder, and made into paste, which is then boiled and rolled in a banana leaf; this is the black man's bread. The sweet potatoe is found in all regions. Other food articles come from corn, sorghum, millet, lentil, sugar cane, etc. At high altitudes, beans and peas are the basic food. The natives are also great meat-eaters. The chief source of meat is hunting. There is also a growing interest in domestic breeding of cattle, goats, sheep, poultry and pigs. Some people prefer fishing. Existing herds of livestock are supervised by the Colonial Department of Agriculture. Herds are now protected against the formerly decimating epizootics such as rinderpest, trypanosomosis, anthrax, etc.

Among the natives of the Congo area, *liquor distillation* is well-known. Tobacco and the smoking habit is common. Hashish is also used as an intoxicant, though its cultivation and use is prohibited. Total nudism has given way to wearing of small aprons, or loin cloth, which is sometimes a rudimentary band between the legs, and secured at the waist by a belt. At some parts of the country, native rags are replaced by European *clothing,* as in the mining camps and the industrial and urban areas. Ornamentation by *mutilation of the body* is still common (tattooing, tooth extraction, ear-piercing, insertion of objects into nose, etc.). Tattooing is common among the Nilotics and Hamites. Painting of the body is also very popular. The color of paint varies according to the occasion. The painful cosmetic methods are now abandoned.

The people of the Congo are still attributing their misfortunes to occult forces, evil spells of sorcerers or to *the evil eye.* The purpose of *religion and magic* is to protect the individual against such forces. The magicians sell talismans, secret potions, amulets, etc. There are also "medicine women." Fe-

tishes are numerous and varied. Taboo may be any object, an animal or certain body. The whole life of the Congo native is fenced by such prohibitions. Circumcision is generally practiced as a graduation from childhood to manhood.

The Law of 1952 (May 27) authorized *a ten-year plan* for the economic and social development of the Belgian Congo and Ruanda-Urundi. The vast program calls for improvement of transportation, housing, communication, instruction of hygiene, etc. Among the *products of the Congo* there is quinine and pitchblende (or Radium ore) in which western people are chiefly interested. The *ledgeriana* and *succiruba* species of *Cinchona* are cultivated in two high-altitude districts. An average of 10% of quinine sulfate is found in the bark. There is a factory for the treatment of bark at Bukavu. *Pyrethrum* is now planted at the highlands, and the pyrethrine content of the plant in Belgian Congo reaches 1.5%. A pyrethrine factory exists in Goma. The *radium ore* is recovered in an open-cast at Shinkolobwe in the Katanga. The mineral is worked up at Oolen in Belgium, yielding about 60 grams of Radium annually. (In 1933, the Congo lost its radium monopoly by the discovery of radium deposits in Canada.)

In the Belgian Congo, *medical assistants are trained* at the Government school at Leopoldville and at the approved school at Kisantu, and at Astride. The course includes 4 years of theoretical study, and 2 years of practical training. Male nurses take three years of practical training in the Government schools at Leopoldville, and at six other places. Numerous schools are available for the training of assistant nurses, assistant midwives, and sanitary inspectors. The Catholic *University of Louvain* in Belgium now maintains a preparatory section and department of medicine *at Kisantu*. At the School of Tropical Medicine at Antwerpen, physicians, sanitary inspectors and female nurses receive special training in research into, and treatment of diseases peculiar to various districts of the Congo and Ruanda-Urundi.

The Government *medical service of the country* is organized as follows. At Bruxelles, the Minister of Colonies is assisted by a Medical Counsellor who is in charge of all matters related to colonial medicine and hygiene. In the Congo, a chief medical officer has general control over the services, and each province of the Congo has its provincial medical officer. The government medical services include the hygiene and treatment of all natives. Industrial and agricultural enterprises have their own medical services for the staff and the laborers. There are also several *philanthropic institutions* concerned with hygiene and therapy. There is also a limited amount of private practice. Only Belgian graduates who received special training in tropical medicine are allowed to practice. Diplomas of other countries must be individually recognized. There are also laws for medical auxiliary personnel and for pharmacists. Many ordinances have been issued for the improvement of sanitation in the country.

Several laboratories of the *Congo and Ruanda-Urundi* conduct *scientific research*. In the Congo alone, there are about ten laboratories, one of them at the Princess Astrid Institute for Tropical Medicine at Leopoldville. The various government services require about 330 doctors, or more than half of the Colonial Medical Corps. The industrial establishments employ about 140 physicians who care chiefly for native laborers and their families. There are numerous *smaller and larger hospitals* for Europeans, natives and for industrial establishments. The State also maintains lazarettos, isolation camps and agricultural colonies for lepers (ca. 12,000), for tuberculosis, and for sleeping sickness. The *Red Cross* devotes itself chiefly to fighting leprosy at the medical center of Pawa in the Nepoko district. The Native Welfare Fund, established in 1947, which receives its revenue from the Colonial Lottery, was especially beneficial in establishing 14 new hospitals, 82 rural dispensaries, 62 maternity hospitals (1200 beds), 32 infant care centers, 3 sanatoria, 14 medical training centers, etc.

There are 12,300,000 natives in the Congo, and 4,200,000 in Ruanda-Urundi. In the Bel-

gian Congo there are 114 *hospitals* (1955 statistics) with 1,053 beds for Europeans; 339 hospitals for natives with 35,935 beds; 1,642 rural dispensaries with 18,682 beds; and 192 special units with 10,136 beds. In Ruanda-Urundi there are 35 hospitals with 3,334 beds, 101 dispensaries with 663 beds, and 3 lazarettos (985 beds). The special units treat tuberculosis, sleeping sickness, and leprosy. The *personnel of the hospitals* includes 609 doctors, 36 dentists, 9 biologists, 63 chemists, 574 medical assistants and health officers, 159 civilian and 438 religious nurses in the Congo, while in Ruanda-Urundi there are 63 doctors, 4 dentists, 2 pathologists, 2 chemists, 40 medical assistants and health officers, 39 nurses, 11 colonial nurses and 23 midwives. There is also a large corps of native medical personnel, including about 4,000 persons in the Congo, and about 800 in Ruanda-Urundi.

One of the peculiarities of the *British campaign against the Mau-Maus* of the Kikuyu tribe in Kenya was that the military operations had to be carried out against an enemy hidden in the more inaccessible parts of the country where a second enemy, in the shape of wild game, was a constant source of danger. *Charging rhinoceros,* for instance, accounted for several, sometimes fatal accidents. A ton of rhinoceros can travel at 30 miles per hour, often causing more anxiety than a gang of the Mau-Maus themselves. Five serious casualties, one of them fatal, were observed by a British Army medical officer. One of the cases was a lance-corporal whose skull cracked like an eggshell under the rhinoceros charge, but, though his brain prolapsed from a parietal wound, he survived with a residual mild spastic hemiplegia, owing to the fact that these cases were quickly (in about 2-3 hours after the injury) evacuated by helicopter from the African forest to the Nairobi base hospital 120 miles away.

Alcoholism continues to be the *worst plague of France* according to the observations of French doctors. At the Medical Clinic of the Hôtel-Dieu of Paris, almost 20% of the admissions were for conditions brought on by alcoholism during the latest year of observation. Almost a third of deaths at this clinic were directly or indirectly due to alcoholism. These observations confirm the general statement that among the causes of death in France *alcoholism is more important now than tuberculosis.* It is interesting that during wartime, when there were restrictions on drinking, both the mortality of liver cirrhosis and the admission to mental hospitals with alcoholic psychosis dropped considerably in France.

There is another way in which alcohol may become a killer. Doctors of the French Academy of Medicine call the *traffic accident* the "modern Minotaurus" which demands the youth of France as a sacrifice on its heathen altar. Study of the geography of French road-accidents also shows that the accidents mostly occur in the Parisian area and in the four counties (departments) of France which are *the regions of wine and alcohol:* Nord, Calvados, Cote-d'Or, and La Gironde. In Paris, 57% of the fatal automobile accidents happened when the driver was under the influence of alcohol. In addition, other factors also contribute to the increase in the number of victims, including both the stimulant and the tranquilizer drugs. The latter produce a stage of cerebral immaturity, and thereby prepare the way to make *the tranquilized driver* an unaware potential homicide. Proposition was made for a large-scale reorganization of the medical service of the French road network.

In London, an *outpatient clinic* is planned *for homosexuals.* The clinic would aim at the reduction of the problem. Not much can be offered in way of new therapeutic technic, but there is a chance and hope to make these deviates better adjusted to their homosexuality for the benefit of society. By the way! As well known, the recent *report of the Wolfenden Committee* in Great Britain suggested that "homosexual behavior between consenting adults in private be no longer a criminal offense."

English doctors are very bitter, not only about their remuneration, but also about certain policies of the National Health Service

and its lack of relation to Her Majesty's Overseas Civil Service. A man who enters the Overseas (formerly Colonial) Civil Service will have some difficulty when, after 10 or 20 years, he wants to get medical employment in Great Britain. A medical authority on National Health Service stated that the chance of getting employment in his country at 35 years of age, still less at 45, was very slight for a doctor who returned from the colonial service. The average young man in England found, when he qualified, that he must not *lose his place "in the queue."* If he went away for a couple of years, no matter how capable he was, his chance of getting back into the queue was very slim.

The *general practitioners of New Zealand* are no better off. They clamor for a new deal in general practice. It seems that their work is much, while their fee is low. The present fee of 7 s/6 d. makes it uneconomical to spend a great deal of time on one consultation or visit. Neither is there any time left for reading or study. Thus, a vicious circle develops which will ultimately result in bad practice and bad doctors—for which the present *Social Security Act is blamed.* It was suggested that a basic number of 25 patients daily be regarded as the optimum for the average practice in computing payment. Now, a New Zealand doctor has to see at least 50 patients daily to gain 18-19 pounds as a reasonable reward of his day's work.

The Minister of Native Welfare in Western Australia received a report on the health and *nutrition of the natives* in the Warburton Range area *of Western Australia.* This report was made by a medical expedition sent out by the health department of the State for the evaluation of the nutritional state of the natives and for the study of the prevalence of disease among them. The surprising conclusion of the report is that the natives in the bush have a more balanced diet and suffer from less infection than those in close contact with white civilization. Whenever the Australian aboriginal leaves his native reserves, as he frequently does, being attracted to centers of white man's culture, in his new environment he will become a prey to disease and a danger to others. They tend to end up as unemployables in terribly filthy native camps. It seems to the medical surveyors that the present approach of the Australian Government to such *problems of cultural contact* is imperfect because there is no agreement among the officials what role the native should play in the Australian society.

Appendicitis in Papua is very infrequent among the natives, if not entirely nonexistent. The indigenous population which is not yet "contaminated" by civilization never has it. Two doctors of Port Moresby (Territory of Papua) observed only eight native cases of appendicitis. They call attention to the economic status and the current dietary habits of these native patients. Two of them were police-boys, two were house-boys, one was a soldier, and one was a trainee at a Government school, while an 11-year old girl, who had general peritonitis, came from a sophisticated local family. All had been living for some time on preserved foodstuffs of European type. The observation again emphasizes the role of dietary factors in this global disease.

Leprosy is still with us, and some five million people are suffering from it all over the world. *Lepers may be discovered in any country* in the course of routine examinations. During the four years from 1953 to 1956, nine cases of leprosy were *detected in Scotland,* for instance. In every case the disease had been contracted abroad. One of the patients was visiting the out-patient ward of a hospital. Canada also reports sporadic cases of the disease which are seen among immigrants. A recent case (1956) was observed in *a housewife of Toronto* who six years ago immigrated from São Paulo, Brazil, where the number of lepers is rather high. Canada maintains three leprosariums: one at Darcy Island, B.C., another on Bentinck Island, near Victoria, and the third at Tracadie, in New Brunswick. During the past four decades some 50 persons were admitted to these lazarettos for leprosy.

In *India, lepers* number to a million per-

sons. They are living under a stigma since, according to the common belief of the Hindus, leprosy is a sign of divine displeasure for one's misdeeds of a past life. It is also thought by many that leprosy is incurable, hereditary, and highly contagious, requiring segregation. Hence, the leper himself feels as an outcast and an out-caste. He loses his job, and is forced to a living by begging. The inferior role which is left for him in society provokes an *aggressive behavior in the leper,* or drives him into suicide. Modern India is now making every effort to provide facilities for useful occupation, recreation, social and religious activities in the newly created institutions for the lepers. India decided to *expand the Central Leprosy Research and Teaching Institute* at Tirumani, near Chingleput, with laboratory, surgical and clinical blocks. There will also be a tuberculosis block to treat lepers with associated tuberculosis of the lungs. The director of the institute will be Dharmendra, eminent Hindu leprologist. The Mission to Lepers also maintains homes where reconstruction surgery is performed *on lepers. Many new operations* have been devised by the staff of the Christian Medical College in Vellore, under the guidance of Paul W. Brand. The *Mission to Lepers* began its noble work in 1865 as an unselfish non-governmental institution.

Hungarian papers reported the opening of a new 60-bed obstetrical and *gynecological hospital in Sztalinváros* (the former Dunapentele) in January 1958. The three-story building also has a department for infants and newborn babies on its lower floor. The town where the new medical establishment opened is one of the new industrial enterprises which the Communist economy created.

The *bureaucracy of the Communist countries* is growing to a most amazing extent. Indeed, its certain branches assumed the proportion of fetishism. Thus, in Hungary, even the smallest tool shops, offices, scientific *museums and universities* also, have *time clocks* to be punched. Each door has a guard, and whoever of the employees arrives a little late, must surrender his identification card to the guard who turns it in to the personnel department. There is a huge caricature of the Neanderthal man (or, at some places, the figure of John Foster Dulles) displayed on a billboard. The belly of the ape-man (or of Mr. Dulles) is white and at this place are the names of the late-comers publicly castigated daily, under the inscription: *"Today I helped the imperialists."* The distrust of the bureaucrats is universal, and it includes everybody from top engineers and chiefs down to janitors. A certain top engineer, when submitting his travelling expenses, had to account even for the few pennies he had to deposit in the public pay-toilets. Once when he left his working place on factory business, he had to get written permission of the management which he had to present to the doorman before he was allowed to leave the building. Technical *manuscripts are considered secret* until they appear in print. Once, an engineer left the manuscript of his article in the drawer of his desk in the factory; he was punished.

Philatelists may know it already that on the occasion of the tercentennary celebration of the death of *William Harvey the Soviet Union* issued a 40-kopek commemorative *postal stamp* which bears the portrait of the discoverer of the greater circulation of the blood. On the stamps is a legend of what he discovered, and his name in Russian spelling: UIL'JAM GARVEI (1578-1657) . . . *Multa paucis!*

The Sir Henry Wellcome Medal and Prize

COMPETITION FOR 1958

THE competition is open to all medical department officers, former such officers, of the Army, Navy, Air Force, Public Health Service, Veterans Administration, The National Guard and the Reserves of the United States, commissioned officers of foreign military services, and all members of the Association, except that no person shall be eligible for a second award of this medal and prize and no paper previously published will be accepted.

The award for 1958, a medal, a scroll, and a cash prize of $500, will be given for the paper selected by a committee composed of the Association's vice-presidents which reports on the most useful original investigation in the field of military medicine. The widest latitude is given this competition, so that it may be open to all components of the membership of the Association. Appropriate subjects may be found in the theory and practice of medicine, dentistry, veterinary medicine, nursing and sanitation. The material presented may be the result of laboratory work or of field experience. Certain weight will be given to the amount and quality of the original work involved, but relative value to military medicine as a whole will be the determining factor.

Each competitor must furnish six copies of his paper which must not be signed with the true name of the author, but are to be identified by a *nom de plume* or distinctive device. These must be forwarded to the Secretary of the Association of Military Surgeons of the United States, Suite 718, 1726 Eye St. N.W., Washington 6. D.C., so as to arrive at a date not later than 1 July 1958, and must be accompanied by a sealed envelope marked on the outside with the fictitious name or device assumed by the writer and enclosing his true name, title and address. The length of the essays is fixed between a maximum of 10,000 words and a minimum of 3000 words. After the winning paper has been selected the envelope accompanying the winning essay or report will be opened by the Secretary of the Association and the name of the successful contestant announced by him. The winning essay or report becomes the property of the Association, and will be published in MILITARY MEDICINE. Should the Board of Award see fit to designate any paper for "first honorable mention" the Executive Council may award the writer life membership in The Association of Military Surgeons, and his essay will then also become the property of the Association.

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It is a privilege to list the firms who have joined The Association of Military Surgeons as Sustaining Members. We gratefully acknowledge their support.

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ASSOCIATION NOTES

Timely items of general interest are accepted for these columns. Deadline is 3rd of month preceding month of issue.

Department of Defense

Ass't Secretary (Health & Medical)—HON. FRANK B. BERRY, M.D.

Deputy Ass't Sec'y—HON. EDW. H. CUSHING, M.D.

REORGANIZATION

A reorganization of the Department of Defense is a certainty but just what the final reorganization plan will be is not known. The President has submitted a plan to Congress where there are ideas that may be much different. We are certain of one thing—there will be a change. How this will affect the medical section of the Secretary of Defense's office remains to be seen.

Army

Surgeon General—MAJ. GEN. SILAS B. HAYS

Deputy Surg. Gen.—MAJ. GEN. JAMES P. COONEY

MEDICAL SERVICE DIPLOMATES

Army Medical Service officers today are attaining in one year almost as many specialty board certifications as the Service had on its roster ten years ago when its graduate professional training program was instituted.

In 1957, 103 of the Army's physicians and surgeons successfully passed examinations of the American specialty boards. The dentists in the same period had seven new certifications in prosthodontia and oral surgery and one in oral pathology. Veterinary medical officers added 3 new certifications in veterinary public health and the allied science group in the Medical Service Corps contributed one new diplomate in clinical psychology, bringing the Army Medical Service total to 115 new certifications.

In 1947 the Army Medical Service census of certified officers accumulated over previous years was 140 diplomates.

One of the objectives of the educational program begun in 1947 was to stimulate medical officers' interest in certification. The total number of Medical Corps diplomates in December 1957 reached 557 with a range of 34 specialties and combined specialties.

The Dental Corps had a total of 51 board certified members at that time; the Veterinary Corps, eleven diplomates; and the Medical Service Corps, twelve such officers.

In commenting upon the growing number of board certified medical officers, Maj. Gen. Silas B. Hays, Surgeon General of the Army, said: "In our modern Army, personnel are given assignments in accord with the nation's needs and with individual education and experience. A large percentage of our senior medical officers are board eligible or board certified, in direct contrast to 1945 when only a few board eligible surgeons were on duty in the Army.

"Army medical officers are as interested in the development of their individual careers as are civilian physicians and scientists. The alert officer will find many opportunities for advancement through his professional assignments and contacts while on active duty."

PERSONNEL INSTITUTE

The first Army Medical Service Institute for Personnel Officers was held at the Walter Reed Army Institute of Research, March 31-April 4.

The Institute was opened by Col. Floyd L. Wergeland, Chief of the Personnel Division, Office of The Surgeon General of the Army; the objectives were presented by Col. Norman E. Peatfield, Ass't., Chief of the Personnel Division. Lt. Col. William J. Clegg, Jr., and Major Walter H. Gelby of the Personnel Division were Director and Ass't. Director, respectively.

Items that were considered by the Institute included career planning, the Army efficiency reporting system, manpower control problems, training and career planning for Army Medical Service officers and enlisted personnel, personnel research and problems of interpersonal relationships.

DEPUTY COMMANDER

Brig. General James H. Forsee, MC, has been named Deputy Commander of the Walter Reed Army Medical Center. He assumed this new duty to his regular duties as Chief of the Department of Surgery and Chief of Professional Services at the Walter Reed Army Hospital.

The Walter Reed Army Medical Center is commanded by Major General Leonard D. Heaton. The Walter Reed Army Institute of Research, the Walter Reed Army Hospital, and the Armed Forces Institute of Pathology are at the Walter Reed Army Medical Center.

SPRUE

Sprue, a nutritional disorder, is under investigation by the Army Medical Service in Puerto Rico. Co-operating with the Army investigators are Dr. Harold K. Hinman, Dean of the Medical School, University of Puerto Rico, and Dr. E. Diaz-Rivera, Professor of Medicine at the University.

Volunteer patients in this investigation will be hospitalized at the Rodriquez U. S. Army Hospital in San Juan. The civilians are victims of this disease; it is uncommon among peacetime U. S. Army personnel.

FORT BELVOIR OCCUPATIONAL-EMPLOYEE HEALTH UNIT

New quarters for the Occupational-Employee Health Unit at the Army Engineer Research and Development Laboratories, Fort Belvoir, Va., were recently dedicated. Major General David H. Tulley, Commanding General, made the dedication after unveiling a plaque commemorating the inception of the program.

The Occupational-Employee Health Program provides for the treatment of work-caused illness and injuries; one-time emergency preventive care for non-occupational diseases; health education and counseling; periodic laboratory and physical examinations of employees working in hazardous jobs; visiting work sites periodically for industrial hygiene supervision, and providing treatment and drugs to prevent job-caused diseases. Personnel type medical examinations at Fort Belvoir are performed by the staff of this program, utilizing the assistance of pertinent clinical and laboratory services of DeWitt Army Hospital.

The Unit was presented to the Surgeon General by Col. A. H. Davidson, Jr., Director of the Laboratories, Fort Belvoir. Acceptance was made by Col. C. Kirkpatrick, Commanding Officer, DeWitt Army Hospital, and a talk on the "Value of Occupational Health Program" was made by Col. J. R. Hall, Chief of the Occupational Health Division, Office of the Surgeon General, Department of the Army.

Dr. William T. Doran, is Medical Director of the facility.

NEW INSECT REPELLENT HARMLESS

The insect repellent N-Diethyltoluamide (also known by various trade names) has been found to have no harmful effects, according to a preliminary report published April 1 in "Federation Proceedings," organ of the Federation of American Societies for Experimental Biology.

The report, written by Dr. Anthony M. Ambrose and others, is based on toxicity studies of the compound conducted at the Army's Environmental Health Laboratory, Army Chemical Center, Edgewood, Maryland.

The studies have not been completed, but evidence to date shows no adverse effects on the growth, mortality, hemoglobin, food consumption or organ weights of laboratory animals, according to Dr. Ambrose.

FOUR-YEAR COLLEGE EDUCATION

A free four-year college education (including full regular pay and expenses) will be available to qualified enlisted personnel, to the number of 300 per year.

Applicants must be on active duty, must have completed one year of a two year training obligation, and possess a GT score of 120 or higher.

For each college year the trainee must agree to give two more years of service. In others words, a four-year college course will require twelve years of service which includes the college years.

TRAINING

"One trained man who knows his job," Secretary of the Army Wilber M. Brucker has said, "and who appreciates the priceless value of the heritage he is defending, is worth a dozen who don't understand or care."

SERIAL NUMBERS

According to the book, *Military Customs and Traditions* (by Major Mark M. Boatner III), the first serial number for officers "01" was assigned to General John J. Pershing and for enlisted men Serial Number "1" went to Arthur B. Cream, an old soldier in the Medical Department. The Army started using serial numbers for enlisted men in 1918 and prescribed the system later for officers.

Navy

Surgeon General—Rear Adm. Bartholomew W. Hogan

Deputy Surgeon General—Rear Adm. Bruce E. Bradley

MEMBER OF ROYAL SOCIETY OF HEALTH

Captain Bennett F. Avery, MC, U. S. Navy, Director, Publications Division of the Bureau of Medicine and Surgery, holds the distinction of being an *Ordinary Member* of the Royal Society of Health, London, England. This is the highest grade of membership to which any person may be directly elected.

The society is the largest one of public health and other health workers in the world. *Ordinary Members* may use the designation of M.R.S.H. and receive a distinctive Certificate of Election bearing the Royal Society's coat of arms in full color as granted by the College Heralds under Letters Patent.

Dr. Avery was Director of Public Health

Official Navy Photograph

U. S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland.

in Iran during a part of World War II and later was Advisor to be Imperial Iranian Ministry of Health.

DOCTOR AND LAWYER

Lieutenant Commander Charles H. Gray, MC, Head of the Legal Medicine Branch of the Bureau of Medicine and Surgery was recently awarded a Bachelor of Laws degree from George Washington University School of Law. In 1947 he graduated from Stanford University Medical School.

To obtain his Law Degree, Dr. Gray attended the night classes at the university for slightly less than three years. Normally the course requires four years. He accomplished this while attending to his prescribed daily duties in the Navy Department.

CONRAD AWARD

The second Captain Robert Dexter Conrad Award for scientific achievement in the Navy was awarded to Dr. Charles C. Lauritsen, Professor of Physics, California Institute of Technology, last March. The first award had been made to Dr. Alan T. Waterman, Director of the National Science Foundation.

This award is named for the late Captain Conrad, first head of the Planning Division of the Office of Naval Research, who was the primary architect of the Navy's basic research program.

TISSUE CULTURE

The Tissue Culture Division, the newest division of the Tissue Bank Department at the National Naval Medical Center, Bethesda, Maryland, was dedicated on March 13 by Rear Admiral Thomas F. Cooper, Commanding Officer of the Center.

The mission of the division is to be responsibile: for investigating methods of determining the viability of the stored homograft; for investigating the clinical potential of viable tissue culture cells; and for modifying the homograft response to adult living cells through tissue culture methods.

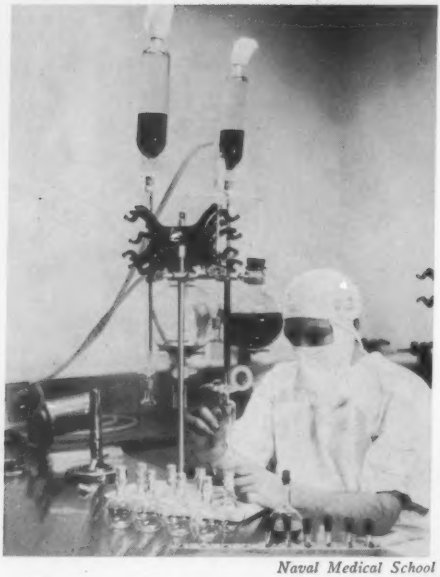
In this laboratory cells are grown on very special media under rigidly controlled conditions. The laboratory has particularly adapted equipment and in one section there is a room into which filtered air is pumped to maintain a positive pressure; here also the humidity and temperature are maintained at a constant level for the fragile cells must be

Official U. S. Navy Photo

REAR ADM. THOMAS F. COOPER, MC, USN

Naval Medical School

TECHNICIAN TIMMERWILKE assemblying special apparatus to determine the rate of respiration of stored human grafts and cultured cells.



Naval Medical School

TECHNICIAN (J. P. TIMMERWILKE, HM2, USN) preparing special nutritional fluids for cultured human cells by passing the fluid through special germ-removing filters.

nurtured with the greatest of care.

The advice and guidance of Dr. Wilton R. Earle and Dr. Virginia J. Evans of the Tissue Culture Laboratory of the National Cancer Institute was recognized at the dedication.

Naval Medical School

TECHNICIAN (V. P. PERRY, HM1, USN) viewing tissue culture of human bone cells with a special time lapse motion picture camera adapted to a microscope.

COMMANDS NAVAL HOSPITAL

On March 10, Captain Frank P. Kreuz, Medical Corps, U. S. Navy, assumed command of the U. S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland. He relieved Rear Admiral Edward C. Kenney, Medical Corps, U. S. Navy who assumed his new duties as Assistant Chief for Personnel Professional Operations, Bureau of Medicine and Surgery, Department of the Navy.

Captain Kreuz, whose former duty was Commanding Officer of the Naval Hospital

Official U. S. Navy Photo

CAPT. FRANK P. KREUZ, MC, USN

in Guam, entered the Navy in 1930. He has specialized in orthopedic surgery during his naval service. During World War II he served as Senior Medical Officer and on the Staff of the Commander Battle Force Pacific in the USS *Washington*.

Captain Kreuz is a member of the following organizations: Certified, American Board of Orthopedic Surgery; Fellow, American Academy of Orthopedic Surgeons; Fellow, American College of Surgery; Fellow, International College of Surgeons; Fellow, American Association for Surgery of Trauma. He is a co-author of a textbook on fractures.

CAPT. THOMAS, RETIRED

Captain George C. Thomas, MC, was placed on the Retired List on March 1 after completing more than 21 years active Naval Service.

During World War I he served as an enlisted man in the U. S. Army. In 1924 he received his medical degree from Jefferson Medical and was commissioned as Assistant Surgeon with the rank of Lieutenant (junior grade) in the Navy Medical Corps. In 1928 he resigned his regular commission and accepted a commission in the U. S. Naval Reserve. He was recalled to active duty in 1940 and was transferred to the Regular Navy in March 1947.

He will make his home at 713 Shadeland Ave., Drexel Hill, Pa.

CAPT. STELLE RETIRED

Captain Charles W. Stelle, MC, who had been serving at the Headquarters, U. S. Marine Corps, Department of the Pacific, San Francisco, California, retired on March 1 after more than 30 years continuous active Naval Service.

He was a native of Pittsburg, Kansas and received his medical degree from the University of Kansas Medical School in 1927. He was commissioned in the Medical Corps of the Navy following his graduation.

He was assigned duty at the Bureau of Medicine and Surgery in 1949 and became Head, Medical Corps Branch, and Director of Personnel for the Bureau. In 1951 he was assigned to duty as Executive Officer at the U. S. Naval Hospital, St. Albans, N.Y., and in 1953 became Commanding Officer of the U. S. Naval Hospital, Chelsea, Mass.

RETIRED

Captain James R. Sayers and Captain Leonard E. Skilling, both of the Medical Corps of the Navy, were placed on the retired list of Naval officers on April 1.

The following Medical Service Corps officers were likewise placed on the retired list of officers: Lieutenant Commanders Jess C. Brown, Kenneth C. Mason, Preston L. Powell, William G. Replogle.

Air Force

Surgeon General—MAJ. GEN. DAN C. OGLE
Deputy Surg. Gen.—MAJ. GEN. OLIN F. MCILNAY

PRESIDENT AERO MEDICAL ASSOCIATION

Brig. General M. S. White, USAF (MC), became President of the Aero Medical Association at their 29th annual meeting held in Washington, D.C., this past March. General White is Director of Medical Staffing and Education for the Surgeon General of the Air Force.

He is a native of New York. After receiving his medical degree from New York University in 1931 he entered military service and became interested in aviation medicine. In 1940, he made the first electrocardiograph recordings and the first complete scientific study of heart action in high-altitude flying. This study led to the development of techniques for the recording of biological functions which are now widely used in the investigation of human factors in flight.

In 1945, General White was a member of the U. S. Air Force group which pioneered the first scheduled round-the-world military air transport flights in six days.

General White is a Fellow of the American College of Physicians, a member of the American Medical Association, the American Heart Association, an a member of the Executive Council of the Association of Military Surgeons of the United States.

PROFESSOR OF SPACE MEDICINE

Academic rank as the world's first Professor of Space Medicine was awarded to Dr. Hubertus Strughold at the Air Force School of Aviation Medicine recently.

The title is one of 24 conferred upon civilian members of the Faculty by Maj. Gen. Otis O. Benson Jr., Commandant of the School of Randolph Air Force Base.

Dr. Strughold, who founded the School's Department of Space Medicine ten years ago this spring, has been known until recently as Professor of Aviation Medicine.

Renowned as the most eminent living authority on human flight in space, Dr. Strughold now serves as the School's Advisor for Research. He still lectures to student medical officers, however, on space medicine.

At the same ceremony installing Dr. Strughold in his new rank, General Benson announced or confirmed seven other full professorships, eleven associate prefessorships, and five assistant professorhips in various teaching specialties.

Full professors are Dr. Hans G. Clamann, in Biophysics; Dr. Robert T. Clark, Physiology; Dr. Lawrence E. Lamb, Internal Medicine; Dr. Glenn L. Lembke, Education; Dr. Roland B. Mitchell, Microbiology; Dr. Heinrich W. Rose, Ophthalmology; and Dr. Saul B. Sells, Psychology.

Associate professors include Dr. Bruno Balke, Physiology; Dr. Richard W. Brancroft, Biophysics; Dr. M. Bryan Danford, Biometrics; Dr. Siegfried J. Gerathewohl, Psychology; Dr. Herbert B. Gerstner, Radiobiology; and Dr. Henry B. Hale, Physiology.

Other associate professors are Dr. George T. Hauty, Psychology; Dr. Harry M. Hughes Biometrics; Dr. Oscar L. Ritter, Physics; Dr. David K. Trites, Psychology; and Dr. Syrrel S. Wilks, Physiology.

Assistant professors are Dr. Donald R. Anderson, Physiology; Dr. William G. Glenn, Immunology; Dr. James A. Green, Physiology; Dr. James R. Neville, Biophysics; and Dr. Pei Chin Tang, Physiology.

Of these, Drs. Gerathewohl and Hauty are members of the Department of Space Medicine, while others contribute occasional research in this field.

PROMOTED

Ida E. Peschon, Chief Nurse in the Office of Brig. Gen. Harold H. Twitchell, USAFE Surgeon, Wiesbaden, Germany, was recently promoted to the rank of colonel.

She is one of the two colonels presently on active duty in the Air Force Nurse Corps. In 1936 Colonel Peschon joined the Army Nurse Corps and in July 1949 she transferred to the Regular Air Force Nurse Corps.

ASSOCIATE MEMBERS ACP

Three physicians who are Associate members of the American College of Physicians will receive new assignments: Major Nestor M. Hensler from Parks Air Force Base, Calif., to 1405th USAF Hospital, Scott Air Force Base (July 1958); Major Ray F. Fitch, Keesler Air Force Base, Miss., to 5040th USAF Hospital at Elmendorf Air Force Base, Alaska (Aug. 1958); and Capt. William A. Frey, Sheppard Air Force Base, Texas, to 7100th USAF Hospital, Wiesbaden Air Base, Germany (Aug. 1958).

Public Health Service

Surgeon General—LEROY E. BURNEY, M.D.
Deputy Surg. Gen.—JOHN D. PORTERFIELD, M.D.

RADIOLOGICAL HEALTH DIVISION

A new division, the Division of Radiological Health, has been created in the Public Health Service. This division will provide technical assistance to State agencies in dealing with medical, industrial and other activities involving exposure to radiation, and will also conduct research and training programs.

The chief of the new division will be (July 1) Dr. Francis J. Weber, a career officer in the Service, and former medical director of the Denver Regional Office.

APPOINTMENTS

Dr. Arnold B. Kurlander has been appointed to the newly created post of Assistant Surgeon General for Operations. He will assist Surgeon General Leroy E. Burney in coordinating the programs of the Public Health Service's three major operating bureaus and perform special assignments for the Surgeon General.

Dr. Kurlander is a career officer of the Public Health Service, since 1939. During World War II he served as medical officer of the U. S. Coast Guard Cutter *Comanche*.

Dr. William F. Mayes, has been appointed as assistant to Dr. James K. Shafer, Chief of the Division of General Health Services, Public Health Service. Dr. Mayes will have special responsibility for programs concerned with research in public health practice and with the training of public health personnel.

He will work with potential investigators as well as with health agencies, universities and foundations in finding out the resources and assistance they need, and will help to adapt the research grants mechanism so that it fosters this type of research.

Dr. William H. Stewart has been appointed Assistant Program Operations Officer of the Public Health Service. He will serve as the immediate assistant to Dr. Arnold Kurlander, who was appointed to the newly created post of Assistant Surgeon General for Program Operations.

Dr. Stewart joined the Public Health Service in 1951 after a period of private practice in Alexandria, La. He graduated from Louisiana State University School of Medicine in 1945.

POLIOMYELITIS

The decreasing rate of poliomyelitis is certainly encouraging when one looks at the figures of five years ago. In just the last year the rate has taken a decided tumble. But much more can be accomplished if a crash program of vaccination would be instituted. This, of course, means the cooperation of every person forty years of age or under since they are mostly concerned with this dreaded disease. Here are some figures for thought.

No. of Individuals (As of March 1, 1958)	Under 20 Yrs.	Over 20 Yrs.	Total
Total population	65,000,000	46,000,000	111,000,000
With only 1 injection	2,500,000	1,500,000	4,000,000
With only 2 injections	10,000,000	6,000,000	16,000,000
With all 3 injections	34,000,000	8,500,000	42,500,000
Total (1 or more injections)	46,500,000	16,000,000	62,500,000

DON'T DELAY FURTHER THE POLIO VACCINATION

POLIO VACCINE

There has been speculation about the need for a fourth polio injection. However, the National Advisory Committee to the Surgeon General of the Public Health Service has suggested that a fourth injection is not indicated at the present time unless a physician advises it. There may be cases where an epidemic of poliomyelitis might indicate to the physicians of that area that a fourth injection be given.

In the meantime let's urge everyone under forty years of age to get the three injections.

RETIRED

Nurse Director Donna Pearce, a commissioned officer of the Public Health Service, recently retired from that service.

Veterans Administration

Chief Medical Director—WILLIAM S. MIDDLETON, M.D.

Deputy Chief Med. Dir.—R. A. WOLFORD, M.D.

RESEARCH IN AGING

A new division of the Department of Medicine and Surgery, Research in Aging, has been established with Dr. Charles C. Chapple as its head.

Dr. Chapple, former Chief of the VA's Clinical Studies Division said that the chemical, nutritional, psychological, biophysical, social, and clinical aspects will be considered as a whole in the study of aging.

The program will be developed under the guidance of five university consultants, known as the Veterans Advisory Committee on Problems of Aging. The members are Dr. Ralph W. Gerard (chairman), Mental Health Research Institute, University of

Michigan; Dr. Wendel H. Griffith, University of California School of Medicine; Dr. Eugene M. Landis, Harvard Medical School; Dr. Albert I. Lansing, University of Pittsburgh School of Medicine; and Dr. William D. Stroud, Graduate School of the University of Pennsylvania.

ASSIGNMENTS

William J. Lyons, has been appointed as manager of the VA hospital at Rutland Heights, Mass. He will fill the vacancy created by the death of Dr. Lester L. Weissmiller.

Mr. Lyons is a native of Massachusetts and a graduate of the Boston College and the Massachusetts College of Pharmacy. He served in the infantry in World War I and in the Medical Service Corps of the Army in World War II.

Dr. Harold A. Stokes has been appointed manager of the VA hospital at Fort Meade, S.D. A native of South Dakota, he received his medical degree from Temple Medical School in 1944. From 1945 to 1947 he served as surgeon for the 43rd Regiment of the 12th Infantry Division, U. S. Army.

VETERANS

At the end of February 1958 there were 22,732,000 veterans of the Armed Forces in civilian life. The average daily patient load in hospitals was 118,095. In VA hospitals—114,921; in non-VA hospitals—3,174. The daily outpatient load was placed at 120,160.

BED OCCUPANCY IN TB

In fiscal year 1954 there was an average daily number of 15,221 beds occupied by tuberculosis patients in Veterans Administration hospitals; this was reduced to 12,715 for fiscal year 1957.

The number of admissions and discharges of tuberculosis patients during this period has remained the same. The daily decrease has resulted from a reduction of the length of stay in the hospital. This has been made possible through the newer drugs and a program which permits the patient to return home when only occasional visits by the physician are necessary.

DISCONTINUE STREPTOVARICIN

The study of streptovaricin will be discontinued by the Veterans Administration following the one-year use of this newer antibiotic in the control of tuberculosis.

The administration of a combination of streptovaricin and isoniazid to patients with tuberculosis has not proved superior to the use of isoniazid alone, and in some cases streptovaricin produced nausea.

NURSES NOTES

A simplified system of nursing records is expected to reduce the time spent by nurses in keeping the notes on patients by about 30% and the file space by about 40%. The forms to be used were developed by the VA nursing service and tested in a number of VA hospitals before adoption for general use.

The new nursing records system is said to consolidate information on medications and treatment while still preserving a clear clinical description of the patient.

Miscellaneous

HEPATITIS VIRUS

We read recently in *Scope Weekly* that the virus of serum hepatitis had been discovered and confirmed by electron microscopy. This was announced by a Dr. Karl Fellinger at Vienna University Hospital. If further confirmed, this discovery will be a great one for medicine.

In the United States viral hepatitis has shown a somewhat less incidence so far this year with the number of cases for the first ten weeks being over 3,000. This is still too high a rate and we hope that with this discovery viral hepatitis will soon get a knock out blow.

ICE CREAM

Now how much cream should be in ice cream? Well, that probably does not matter

to some people. The thin man may want a lot of cream in his ice cream; the plump lady may want just a little cream. But to the Food and Drug Administration it is serious business, and there is to be just the proper amount to meet tentative Federal standards. This has been set at 10 percent milk fat, with also a limit to the amount of air and water that may be present in the ice cream.

Now this is all tentative. The Federal Register, March 26, contains the tentative order based on the record of public hearings. Ninety days will be allowed for interested persons to file objections.

The FDA tentative order on standards for ice cream and related frozen products includes 100 findings of fact which provide a valuable reference on the problems of ice cream technology.

OCCUPATIONAL MEDICINE COURSE

A full-time course in Occupation Medicine for practicing physicians will be given for eight weeks from September 15 through November 7 by the New York University Post-Graduate Medical School.

For further information write: Office of the Associate Dean NYU Post Graduate Medical School, 550 First Ave., New York 16, N.Y.

MILITARY MEDICINE AND PHARMACY MEETING

The 20th Session of the International Committee of Military Medicine and Pharmacy will be held in Liege-Brussels, Belgium, June 8-15, 1958. The theme is: "Emergency treatment in cases of mass casualties."

All regular and reserve officers of the Medical Services of the Armies, Navies, Air Forces and of Overseas Countries, are invited to attend this Session.

The Office of the Secretary is: Military Hospital, 79, rue Saint-Laurent, Liege, Belgium.

MILITARY ENGINEERS MEETING

Members of our Association are invited to attend the 38th Annual Meeting of the Society of American Military Engineers which will meet at Washington, D.C., and Fort Belvoir, Virginia, May 20 and 21.

Two of the highlights of this meeting are a visit to the Nuclear Reactor Electric Power Plant at Fort Belvoir, and the luncheon at which Honorable Gordon Gray will be speaker.

"MEDICAL HORIZONS" FILMS AVAILABLE

Motion pictures of "Medical Horizons" television shows can be obtained from CIBA, the producer, for showing to professional audiences, for educational purposes only. These are black and white films, 16 mm., with a running time of 30 minutes.

For further information write to CIBA-TV, Summit, New Jersey.

SCIENTIFIC EXHIBITS ON FILM STRIP

In the interest of medical education the Lakeside Laboratories, Inc., has instituted a project known as "Exhibits-On-Film, A Library of Scientific Exhibits." This educational feature consists of small cans of filmstrips, a long-play record, and printed instructions. Many of the questions that are asked by the physicians who have seen the actual exhibits are answered and other data are included through the editing measures employed.

The service is available to medical schools and medical societies. Requests may be made to the Executive Secretary, "Exhibits-On-Film, Lakeside Laboratories, Inc., 1707 E. North, Milwaukee 1, Wis. There is no charge for the service.

NEW FILM AVAILABLE

Drug Induced Depression . . . Fact or Fallacy is the title of a new 16 mm. color and sound motion picture now available for loan. This is a Ciba Pharmaceutical Products sponsored film and is available by writing to the Ayd Foundation, Inc., 6231 York Road, Baltimore, Md.

A.M.A. SCIENTIFIC EXHIBITS

A 480-page book of the *Scientific Exhibits*

at the American Medical Association convention in New York, June 1957, is now available through Grune & Stratton, publishers, New York. The price is $15.00.

Many who saw these instructive exhibits will be interested in a review; those who were unable to attend the convention will find in this book valuable late information in capsule form.

YAWS

An International Nomenclature of Yaws Lesions is the title of a World Health Organization monograph—No. 36. It contains 76 plates, 104 pages; price $4.00. This is a book in English and there is a French edition in preparation. Copies may be obtained through the Columbia University Press, IDS, 2960 Broadway, New York 27, N.Y.

WHO PUBLICATIONS

Committee on Milk Sanitation TR No. 124	$.60
Malaria Conf. (East Medit. & Europ.) TR No. 132	.60
Chronic Malaria, BCG Vacc., etc. Vol. 11, No. 5	.30
Comm. on Insecticides TR No. 125/57	.30
Biological Standards TR No. 127	.30
Comm. on Health Statistics TR No. 133/57	.30
Comm. on Yellow Fever Vacc. TR No. 136/57	.30

Any of the above publications may be obtained from the Columbia University Press, IDS, 2960 Broadway, New York 27, N.Y.

PODIATRISTS

The American Podiatry Association is the new name of the National Association of Chiropodists. "Podiatrist" is now the preferable term, rather than "chiropodist."

WANTED

Veterinary station and field equipment for exhibit purposes in the Fort Riley, Kansas, museum. If you have any material you would like to donate to the museum at this former Cavalry School station, contact Colonel Milford T. Kubin, Commanding Officer, Irwin Army Hospital at Fort Riley.

AMERICAN

It would save us the trauma of future shocks if we would simply abandon the notion of catching up in the conventional sense, plan our own research on a long range footing to fit the needs and aspirations of democracy regardless of what Moscow does or talks about; reverse our haughty practice of looking down our noses at forms of government different from our own, learn to read foreign language research reports with the same facility that foreigners today read research reports in English, and mesh that language study with modern technology and social sciences and diplomacy to restore democracy to its former place of honor.

JOHN LEAR, *Modern Language Journal*

IMPLIED CONSENT

The almost truculent *Virginia Traffic Saftey News* commented recently on Virginia press criticism of "implied consent" provisions in chemical test laws.

"Whenever any law is predicated on the principle that a 'suspected' person may be required to submit to anything, even a simple test, there are serious dangers of abuse," a Norfolk newspaper had declared.

In an editorial headed "Let's Be Fair," the publication of the Governor's Highway Safety Committee replied:

"The paper didn't touch on the section of the same law which requires the suspected person to be placed under arrest before the test can be requested nor does it seem to realize that most arrests for driving while drinking are based upon 'reasonable suspicion'.

" 'In the absence of chemical tests,' says Dr. R. N. Harger, professor of biology and toxicology, Indiana School of Medicine, 'even a physician cannot swear with certainty that the individual had a drop of alcohol in his body.'

"Also, how many thousands of 'suspected'

persons have been fingerprinted, photographed, searched for identifying scars or tattoos, confronted by recognition witnesses or requested to prove their whereabouts?" —*Bulletin*, Amer. Assoc. of Motor Vehicle Administrators, Inc.

Honor Roll

Since the publication of our last list, the following sponsored one or more applicants for membership in the Association:

A. B. C. Knudson, M. D.
Capt. R. H. Blood, MC, USN
Julius Hendler, D.D.S.
Dr. M. H. Rosenthal
Brig. Gen. Clement F. St. John, MC
Capt. Henry C. Henn, MSC,
Myles R. Miller, M. D.
Col. Robert M. Davis, MC

ADVISORY COUNCIL ON RESERVE AFFAIRS TO THE SURGEON GENERAL OF THE ARMY

The Advisory Council on Reserve Affairs met recently with Major General Silas B. Hays, the Surgeon General of the Army.

Those shown in the group picture are: (seated, left to right) Brig. Gen. Perrin H. Long, MC, USAR, Brooklyn, N.Y., and Maj. Gen. Silas B. Hays, The Surgeon General of the Army; (standing, left to right) Brig. Gen. Frank E. Wilson, MC, USAR, Washington, D.C.; Brig. Gen. James B. Mason, MC, USAR, Evanston, Ill.; Brig. Gen. Manfred U. Prescott, MC, USAR, San Francisco, Calif.; Brig. Gen. Harold C. Lueth, MC, USAR, Evanston, Ill.; Brig. Gen. Truman G. Blocker, Jr., MC, USAR, Galveston, Texas; Brig. Gen. Carl S. Junkerman, MC, USAR, Columbus, Ohio; and Brig. Gen. Joseph M. Bosworth, MC, USAR, Atlanta, Ga. Not in group are: Brig. Gen. Alexander M. Marble, MC, USAR, Boston, Mass.; Brig. Gen. Harold G. Scheie, Philadelphia, Pa.; and Dr. Thomas Fox, Philadelphia.

OBITUARIES

Ass't. Surg. Gen. John W. Cronin, USPHS

John William Cronin, Assistant Surgeon General of the U.S. Public Health Service, died of a heart attack in an ambulance enroute from his office to Casualty Hospital, Washington, D.C. Death occurred on March 26 at the age of 52.

Dr. Cronin was a native of Springfield, Ohio. He received his medical degree from the University of Cinncinnati College of Medicine. In 1932, he entered the Public Health Service. He became interested in psychiatry and studied in the Post Graduate School of Medicine at the University of Colorado (1036-37), and then served at the Public Health Hospitals at Lexington, Ky., Federal Reformatory, El Reno, Okla., and the Federal Penitentiary Fort Leavenworth, Kansas.

From 1949-1956 he was Chief of the Division of Hospital and Medical Facilities, Public Health Service, Washington, D.C. In that position he was administrator of the Hill-Burton Hospital and Medical Facilities construction program.

In November 1956, Dr. Cronin was appointed Chief of the Bureau of Medical Services with title of Assistant Surgeon General, and relative rank of major general. This position placed upon him the administration of the Public Health Service hospitals, the Hospital and Medical Facilities Survey and Construction Program, the Foreign Quarantine Program, and the Dental and Nursing Resource activities.

Dr. Cronin was the author of many articles on psychiatry, occupational health, and hospital administration. He was certified by the American Board of Preventive Medicine and Public Health. He was a member of the American Medical Association, the American Public Health Association, the American Hospital Association, the American Psychiatric Association, the Southern Medical Association, and a Fellow of the American College of Surgeons.

DR. JOHN W. CRONIN

The Executive Council adopted the following resolution:

"On the untimely death of John W. Cronin, Assistant Surgeon General, United States Public Health Service; With profound sorrow, the Council members of the Association of Military Surgeons of the United States record the death of one of its officers.

"In his death we have lost our Third Vice-President, a wise counselor, a kindly man, and a dear friend.

"With his magnetic personality, his rare gift of humorous expression and his wisdom acquired through wide experience, he was a dominant figure among his fellows.

"One of his most distinguished services to the Association was in 1953 when he served ably as Program Chairman for the Annual Convention. In appreciation, the Executive Council voted him Life Membership in the Association.

"The Executive Council of the Association of Military Surgeons of the United States desires to spread upon its records its keen sense of personal loss in Doctor Cronin's sudden death.

"Collectively and individually we extend to you and your children this expression of our sincere sympathy and our heartfelt condolence."

A copy of the resolution was sent to Mrs. Cronin who resides with her two children, Virginia May and John, Jr., at 5528 Trent Street, Chevy Chase, Maryland.

Interment was in Arlington National Cemetery.

Brig. Gen. Robert C. McDonald, U. S. Army, Ret.

Robert C. McDonald, Brigadier General, Medical Corps, U. S. Army, Retired, died at Walter Reed Army Hospital, March 17, at the age of 77.

General McDonald, a native of Bells, Tennessee, received his medical degree from Tulane University in 1909. He entered the Army Medical Corps in 1910. During World War I, he served in France and was the commander of the ambulance company that evacuated the first American wounded of the war.

From 1921-25, and again from 1931-35, he was with the Office of the Surgeon General of the Army, the last time in the capacity of Executive Officer. He was Executive Officer of Letterman General Hospital from 1935-39, Surgeon of the Third U. S. Army, Ft. McPherson, Ga., from 1940, and commanding officer of England General Hospital, Atlantic City, N.J., from 1942-43. Following his retirement in 1946 he was Surgeon of the U.S. Soldiers Home until 1952.

General McDonald was a graduate of the Army Medical Field Service School, the Command and General Staff School, and the Army War College. He was a member of the American Medical Association, the College of Physicians and Surgeons and a Forty-Year Life Member of the Association of Military Surgeons of the United States.

He is survived by his widow, Mrs. Olive B. McDonald, 7542—14th St., N.W., Washington 12, D.C., and four sons, Col. Robert C., Jr., in Germany; Capt. Lucien B., Wash., D.C.; James G., of Kansas City, Mo.; and Henry S. of Murray Hill, N.J.

Interment was in Arlington National Cemetery.

Lt. Col. Wm. J. Young, MC, USAR, Ret.

William James Young, Lieutenant Colonel, Medical Corps, Reserve, Retired, died at the Central Maine General Hospital, Lewiston, Maine, December 8, 1957, at the age of 76.

Doctor Young was a native of Boston. He received his medical degree from the University of Pennsylvania School of Medicine in 1911. In 1917 he received training at the Medical Officers Training Camp at Fort Benjamin Harrison, Indiana, and was later assigned to Camp Grant, Illinois. He served overseas with the 311 Sanitary Train during World War I, and served in the Army during World War II. In 1948, he was retired from the Reserve.

Doctor Young served during his active medical career as physician at Texas A & M, Williams and Mary College, and the University of Maine. At the time of his retirement from medical work he was serving as district health officer of Androscoggin, Franklin, and Somerset Countries, Maine.

He was a member of the American Medical Association, the American Public Health Association, and was a 40-year Life Member of the Association of Military Surgeons.

NEW BOOKS

Books may be ordered through the Association

New and Nonofficial Drugs—1958. A.M.A. Council on Drugs. J. B. Lippincott Company, Philadelphia, Pa. Price $3.35.

Clinical Management of Varicose Veins. 2nd Ed. David W. Barrow, M.D. Paul B. Hoeber, Inc., Med. Dep't., of Harper & Bros., New York. Price $6.00.

International Nomenclature of Yaws Lesions. C. J. Hackett, WHO. Columbia University Press, IDS, New York. Price $4.00

New Developments in Army Weapons, Tactics, Organization and Equipment. Marvin L. Worley, Jr., The Military Service Publishing Co., Harrisburg, Pa. Price $3.50.

The Clay Pigeons of St. Lo. Colonel Glover S. Johns, Jr. The Military Service Publishing Co., Harrisburg, Pa. Price $5.00.

War—1974. Lt. Colonel Robert B. Rigg. The Military Service Publishing Co., Harrisburg, Pa. Price $5.00.

Oral Surgery. 3rd Ed. Dr. Kurt H. Thoma. C. V. Mosby Co., St. Louis, Mo. Price $27.50.

Physical Dynamics of Character Structure. Alexander Lowen, M.D. Grune & Stratton, Inc., New York. Price $7.75.

Recent Advances in Obstetrics & Gynecology. Alec W. Borne and Leslie H. Williams. Little, Brown & Co., Boston. Price $8.00.

Psychotherapy of Chronic Schizophrenic Patients. Edited by Carl A. Whitaker. Little, Brown & Co., Boston. Price $5.00.

Pharmacology in Medicine. 2nd Ed. Edited by Victor A. Drill, Ph.D., M.D.—86 contributors. McGraw-Hill Book Co., New York. Price $19.50.

Ciba Foundation Symposium, Chemistry and Biology of Mucopoly-Saccharides, Editors for the Ciba Foundation, G. E. W. Wolstenholme and Maeve O'Connor, Little, Brown & Co., Boston, Mass. $8.50.

An International Symposium, Aldosterone, Edited by Alex F. Muller, M.D. and Cecilia M. O'Connor, B.Sc., Little, Brown & Co., Boston, Mass. $8.00.

International Classification of Diseases, Vol. 1, 1955, Revision. World Health Organization, Columbia University Press, New York, N.Y. $6.75.

Heart Disease in Infancy & Childhood, John D. Keith, M.D., Richard D. Rowe, M.D., Peter Vlad, M.D., Macmillan Co., New York, N.Y. $22.50.

Treatment of Fractures, Vol.. III, Lorenz Bohler, M.D., Grune & Stratton, Inc., New York, N.Y. $21.00.

Electron Microscopic Atlas of Normal & Leukemic Human Blood, Frank N. Low, Ph.D., James A. Freeman, McGraw-Hill Book Co., Inc., New York, N.Y. $25.00

Medical Management of Cancer, Henry D. Diamond, M.D., F.A.C.P., Grune & Stratton, Inc., New York, N.Y. $6.75.

Laboratory Medicine—Hematology, John B. Miale, M.D., C. V. Mosby Co., St. Louis 3, Mo. $13.75.

Ten Steps Forward, Dr. Brock Chisholm, World Health Organ., Columbia University Press, New York, N.Y. $0.50.

Mental Health in Industry, Alan A. McLean, M.D., Graham C. Taylor, M.D. McGraw-Hill Book Co., Inc., New York, N.Y. $6.50.

Intermediate Hosts of Schistosoma, G. Mandahl-Barth, World Health Organization, Columbia University Press, New York, N.Y. $4.00.

BOOK REVIEWS

PROGRESS IN PSYCHOTHERAPY, Vol. II. Edited by Jules H. Masserman, M.D., Professor of Neurology and Psychiatry, Northwestern University; and J. L. Moreno, M.D., New York University. 264 pages. Grune & Stratton, New York and London. 1957. Price $7.50.

This second volume of a series brings a selection of twenty-eight essays of excellent quality. Papers presented at the proceedings of the Section on Psychotherapy, American Psychiatric Association, 1956, have been supplemented by requested chapters. An introduction by J. L. Moreno and an integrating summation by Jules H. Masserman complete a masterful editing job.

The major groupings concern: (1) the anatomy of anxiety—"the substrate of all need for psychotherapy"; (2) special therapeutic problems; (3) a review of schools and trends; (4) a survey of developments in Europe, Latin America, and India. The informative, provocative papers by Rollo May, Emanuel K. Schwartz, John Gillin, and Jules H. Masserman might be recommended, but every reader will have his favorites.

The book and its companion volume are valuable contributions to the theory and practice of psychotherapy, and will be treasured by all serious students.

CDR. T. H. LEWIS, MC, USN

EXPERIMENTAL PSYCHOPATHOLOGY. Proceedings of American Psychopathological Association, June 1955. Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D., both of New York State Psychiatric Institute. 275 pages. Grune & Stratton, New York and London. 1957. $6.50.

This volume is the proceedings of the forty-fifth annual meeting of the American Psychopathological Association, held in June 1955. It is dedicated to Stanley Cobb, who was the Memorial Lecturer for that year.

This collection of papers presents the main experimental work current that year in the field of psychopathology, and it covers the entire gamut from animal to man, from perception of social attitudes to experimental induction of depersonalization. This book is of special interest since so much work is now being done on the organic basis of psychopathology. There are sixteen papers, followed by discussions, and the whole is well-indexed.

CMDR. JAMES L. MCCARTNEY, MC USNR, RET.

TEXTBOOK OF PATHOLOGY WITH CLINICAL APPLICATIONS. By Stanley L. Robbins, M.D., Associate Professor of Pathology, Boston University School of Medicine. 1351 pages, 933 figures. W. B. Saunders Company, Philadelphia and London. 1957. Price $18.00.

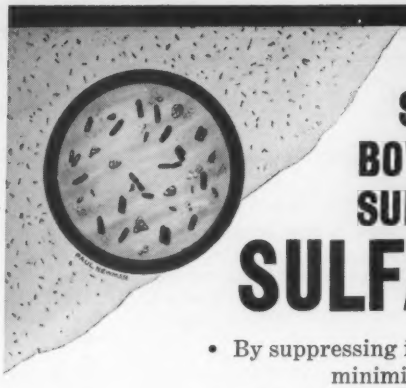
The author indicates in his preface that this book was written for students and clinicians with three major goals in mind. First, it was to be readable and free of distracting detail. Second, the major relevant normal features of a tissue or organ were to be briefly reviewed before proceeding with a discussion of the pathology, and third, emphasis was to be placed on relating pathology to clinical medicine. The reader will find that the author has attained these goals. The book is easy to read, systematic and concise. The brief discussion of normal structure and physiology aids in the understanding of the pathology and the frequent reference to clinical features relieves the monotony of descriptions of morphologic changes in disease states.

Coverage of the subject is complete, as would be expected in a volume of 1351 double column pages. Illustrations are used freely and are excellent although all are in black and white. The use of italics and heavy type to emphasize important points will be appreciated by the student.

This is a "one man" book with the exception of chapters on the skin by Dr. Herbert Mescon, the nervous system by Dr. J. Foley, the oral cavity by Dr. Irving Glickman, the lymph nodes and spleen by Dr. Frederic Parker, Jr. and the liver by Dr. G. Kenneth Mallory.

Although there is presently a rather wide choice of textbooks of pathology it is believed that this volume will prove to be one of the more popular texts with students, clinicians and pathologists.

COL. HUGH R. GILMORE, JR., USA, RET.



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